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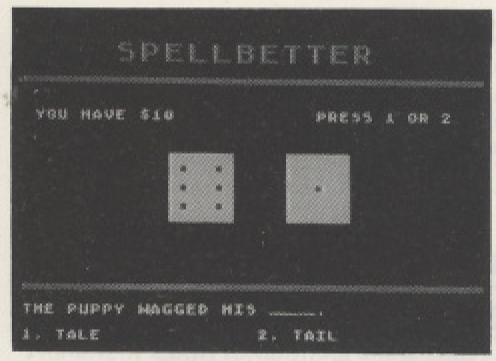
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'The magazine for the Dedicated Atari User'

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Issue 49 April/May 1991



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SUBMISSIONS

PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it! Appropriate payment will be made for all published programs and articles, all payments being made at the end of the second month shown on the cover of the issue concerned.

The next issue of NEW ATARI USER will be on sale 23rd May
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PAGE 6 PUBLISHING's
NEW
ATARI
USER

Editorial

Issue 49
April/May 1991

'The Magazine for the Dedicated Atari User'

ISSN No. 0958-7705

THE CREDITS

All of the usual stuff is on page 3 but here are the people who made this issue possible.

Les Ellingham still hadn't recovered from his post Christmas holiday when getting this issue together but managed it somehow

Sandy carried on with everything that keeps us going

Stacey said something about she'd rather be with pigs than us! Best of luck to her and thanks for everything. I might be looking for a job in a couple of years time. I've already got the wellies!

The Regular Contributors, who provide the backbone of the magazine and can generally be relied upon to come up with good articles and reviews, are ....

Mark Hutchinson
John Davison jr
Paul Rixon
Ian Finlayson
John S Davison
John Sweeney
Damon Howarth
Peter Hickman
N.B. The Tipster also contributes

All other contributors for this issue are individually credited alongside their articles or programs. Thanks to everybody for sharing their enthusiasm with other Atari users.

The cover is of **Dave Stubbs** game **DRAGON CASTLE**

Who the hell has got it in for us? Someone is spreading stupid rumours about us packing in. Don't listen to them.

Very sad news whilst this was being done was the passing of A. Wainwright, someone who I never met but who has given me much inspiration over the years and enabled me to complete one of the few ambitions I ever had. Thanks, A.W.

The music, without which none of this would ever be completed, came from relatively few sources this time. Kate and Anna McGarrigle provided much with Accelerating Heartbeats whilst Clint Black and The Pet Shop Boys made up the remaining time. These three got played time and again. In the last couple of days Chris Rea made an appearance and, maybe Joni Mitchell will also lend a hand.

NEW ATARI USER is the magazine, PAGE 6 is the concept. Wherever you see PAGE 6 you'll know what it means!

The next issue of NEW ATARI USER could feature YOUR article or program, so SEND IT IN NOW!

PAGE 6 shows just what you can do with your Atari. With the exception of final output on a Linotron and use of a repro camera for the listings and photos, the magazine is prepared entirely with Atari based equipment and software - not a Macintosh or IBM in sight! Hardware used includes 130XE, 1050 disk drive, 810 disk drive, 410 cassette (occasionally!), 850 Interface, NEC 8023 printer, 1040ST, SM124 Monitor, Atari SH204 hard disk drive, Cumana 1 meg disk drive, Epson RX100 printer, Kyocera laser printer, Microstuffer printer buffer. Software includes Superscript, Turbo Basic, Kermit, PC Intercomm, TARI-TALK, Print Wiz, STWriter, Protext and Fleet Street Publisher.
Articles and programs submitted on XL/XE disks are subjected to various custom written programs before being transferred across to the ST via TARI-TALK. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. A disk with the finished pages is sent up to a typesetting bureau to be output on a Linotron 300 and, hey presto, finished pages are sent back. It really does work - at last! All that is left is to drop in the listings and photos. Well, it's not quite as easy as that, but you get the idea!

COMPETITION!

A new magazine for the 8-bit Atari has been launched! Well, not quite, but a couple of enterprising Atari users up in Scotland have launched a new disk magazine called EXCEL which you will see advertised elsewhere in this issue. We had hoped to carry a review of the first Issue but lack of space and of time have scuppered those plans so I will, for the first time, use the Editorial column for a review.

In their introductory message on the disk the editors say that the Atari 8-bit has been neglected for far too long and deserves the support of as many people as possible, a sentiment I heartily agree with and the reason for covering EXCEL in this column. Anyway, on to the disk itself. Issue #1 is double sided disk containing seven 'features', mostly programs of one sort or another. To call this issue a 'magazine' is a bit of a misnomer as, apart from the intro messages, there is nothing to actually read. What you do get is an excellent intro demo which scrolls a message in the form of the famous Atari fuji symbol, accompanied by some excellent music. Next up is a version of a concentration type game called Amnesia with excellent animated graphics and music. If you want a preview of this check out the PAGE 6 disk for this issue for this very program is the bonus. Lastly on side 1 is a public domain game called XAGON, a Q-Bert clone which is probably one of the very best PD games available.

Flip the disk and you will find a really top class character designer and animator. If you write you own programs, this alone is worth the price of the disk. The graphic presentation of the editor shows immediately what the program can achieve and, with a little work, you could find yourself writing programs that look like those produced by Zeppelin, for that is the style that this editor produces. Along with the main program there is a routine that will allow the designed character sets to be included in your own programs. This side also has another public domain game, this time from Germany, a one or two player game of 3-D 'spaceball' in which you bounce a ball around a 3-D grid to outwit your opponent. A simple, but top quality, enjoyable game. The disk is rounded off with a slideshow of pictures produced with Graphics Art Department.

As I say, nothing to actually read, but the editors do promise that future issues will include reviews and articles but with heavy emphasis on the graphic presentation that a disk magazine demands. The first issue costs £3.95, and in my opinion, is well worth the price not least because it represents a genuine effort to provide Atari owners with something new at a time when new software is disappearing fast. I hope that EXCEL succeeds and look forward to seeing future issues.

STIRRING IT UP

Someone, somewhere seems to have it in for us as we have heard reports from two separate sources that we are having problems. One rumour quoted as being 'in the trade' has it that Page 6 is in trouble and won't last much longer and the other is that this issue of NEW ATARI USER will be the last. Both of these are absolute rubbish and I can't understand why folks feel it necessary to spread such rumours.

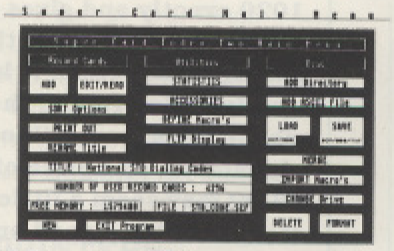
The comment we received about the 'trade' connection is interesting because there are relatively few people in the mainstream computer trade that we come into contact with. Now over the past six months we have made a few enemies in the Atari world but only because we have taken action to recover monies that certain advertisers refused to pay. Maybe that is where these rumours emanate. Quite likely, but what does it achieve for them? Is it sensible to kick everybody in the teeth, including in the long run all the dedicated users who read New Atari User, just because they have failed? I think not. Just ignore it all and rest assured that we will support the 8-bit Atari for as long as we can.

There may well be changes over coming issues because the readership continues to change but, for as long as you want a magazine supporting the 8-bit Atari, we will provide it.

Les Ellingham

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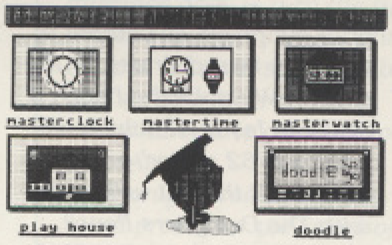
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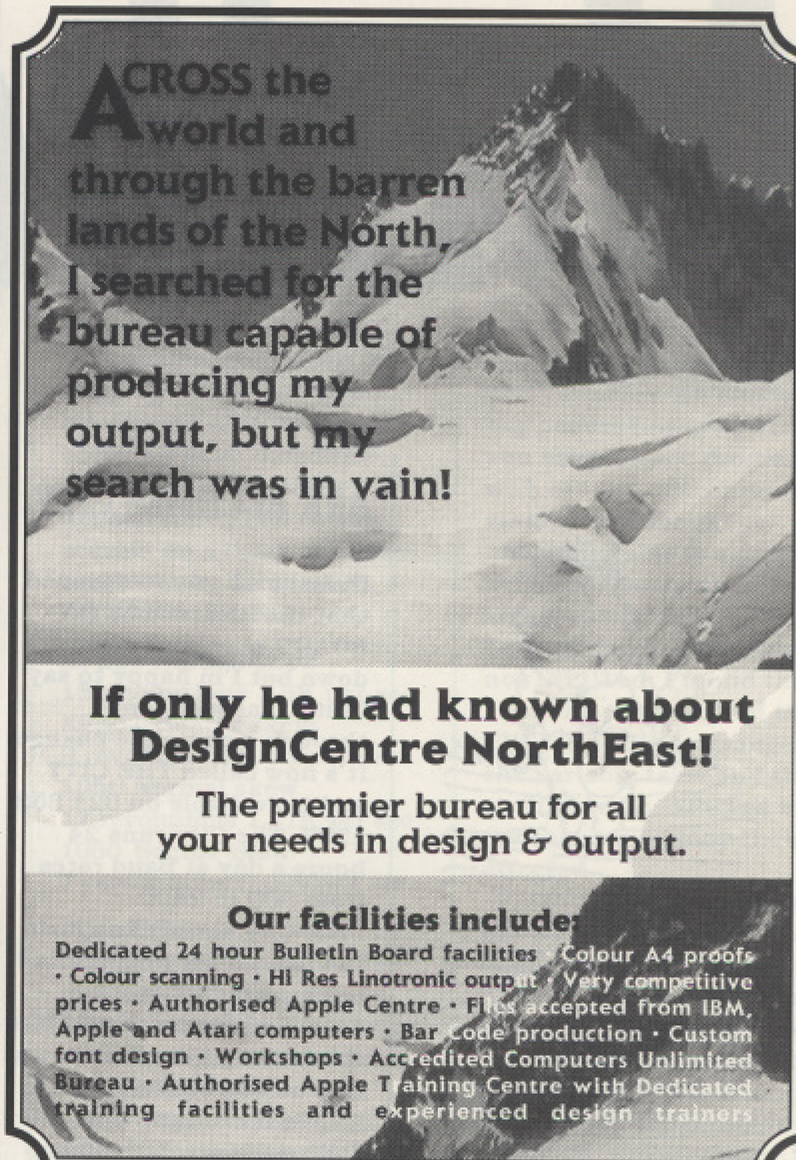


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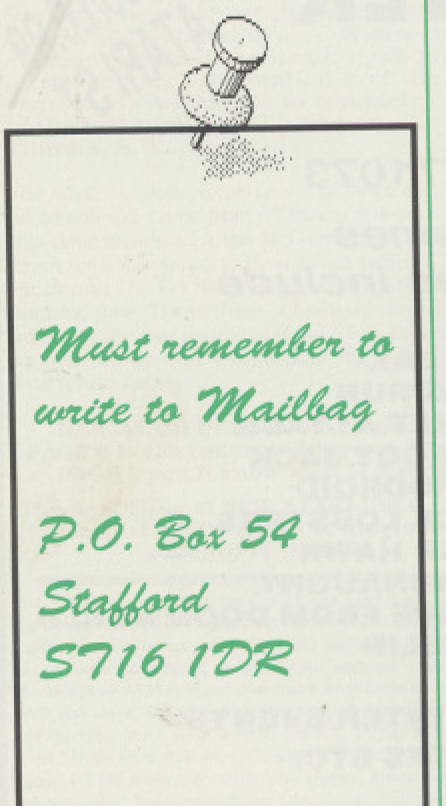
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Mailbag





ARK BECOMES CITY

In Issue 47 you mentioned that the ARK BULLETIN BOARD may have closed down but I'm happy to say that it has just gone through a complete change. It's now called THE CITY and is available on 021 352 1237. The City runs 24 hours a day at Baud rates from 300 to 2400.

The City mainly supports the Atari 8-bit with a small but growing ST section. Atari 8-bit users should like the fact that the Board runs in true 40 column mode in ATASCII or ASCII with the ability to switch to 80 column mode for ST users.

Since the change, things have gone pretty quiet and a mention in your excellent magazine would help a lot.

James Bastaple
Sysop, The City

1020 PROBLEMS

I recently purchased The Designers Pencil for use with my 1020 printer. I thought this was a graphics printer but when I try to print out my own pictures or the demos on The Designers Pencil all that comes out is numbers, letters and symbols. Is my 1020 a graphics printer and if so how do I print out my pictures and demos on The Designers Pencil? I have tried changing the filename from SAILING.PRG to SAILING-.PIC but it doesn't work.

Also can you tell me where I can get more paper rolls for my printer.

Steven Jones
Anglesey

The 1020 is a graphics printer but, like any printer, it will not print out graphics without a software based driver for the printer. We published such a driver in Issue 47 which will print out '62 sector' graphics but I don't think it will work with The Designers Pencil. That program is badly titled since everybody expects it to be an art package when in fact it is a programming language. Whilst you can create graphics with The Designers Pencil, it does in fact write a program to create the graphics rather than create a file which is, effectively, a screen dump. Unless the program contains an option to save screens as standard pictures I doubt that you'll be able to use your 1020 for the purpose you outline. It will certainly dump other picture files though.

PRINTING QUESTIONS

Can you help me by answering the following questions: 1) Can the AtariWriter word processor print out documents on a 1020 printer? 2) Is the 1029 printer an Epson compatible? 3) Do Rambit still sell and fit an increased speed cassette modification for the XC12?

Matthew Pemberton
Leeds

1) Yes 2) No 3) No, but Derek Fern is now selling this modification, check his advert in this issue.

1029 PRINTER RIBBONS

I am writing to let readers know that if they are in need of a replacement ribbon for the ATARI 1029, a direct replacement can be found in TANDY stores. The ribbon is in fact for their own DMP 110 but it fits the 1029 exactly and gives a better quality print with no smudgy characters. It is sturdy in design and the ribbon lasts for 1 million characters. The price of £6.99 may seem a little steep but it is a good buy.

M. Preston
Winslow, Bucks

62 SECTOR PICTURES

I am having trouble with AtariArtist. My problem is that I cannot seem to save my pictures as 62 sector uncompressed files as required by the 1020 screen dump listing on page 30 of Issue 47. Please could you tell me if it is possible.

Peter Tonge,
Bolton

No good looking in the manual, it isn't there! When you have a picture on screen just press the INSERT key and the picture will be saved to disk (or cassette?) as a 62 sector file called PICTURE. You must use DOS to rename this otherwise when you save again the original picture will be overwritten. Pressing the DELETE key when in Draw mode will enable a 62 sector picture to be loaded into AtariArtist.

PET TO ATARI

Please could you help me with a problem I have in a program that I am transferring from a PET to my Atari. The program calls for the line DEF FNA(A)=INT(100*A)/A but my computer won't accept it. I have discovered that the Atari won't accept user DEFINE functions so how can I get round this line?

Ken Hughes,
Bristol

I don't know much about programming the PET but suspect the best way to overcome this is to put the function in a subroutine and use a variable in place of the DEFINE something like this (the line num-

bers can be anything).
10 FNA=500
*500 A=INT(100*A)/A*
Whenever you need to use the function in the program use GOSUB FNA instead.

PRINTERS ...

I have an ICL Microline 83A which can operate in both serial and parallel modes. Please could you tell me which is the best mode to use, what baud rate is best and what interface, if any, I would need.

John Stacey,
Gwent

.... I have acquired a BROTHER M1009 printer without an interface. Is this compatible and, if so, where can I purchase an interface?

G. Piggot,
Crosby

.... I have an Erika 3004 electric typewriter. Whilst reading the instructions I found that I could also buy an interface to use the typewriter as a printer. The instructions said that the typewriter is compatible with any home computer. I have rung around many dealers but none knew of this interface. Where can I buy one? Also are there any word processing programs available on cassette or will I have to buy a disk drive?

Ryan Wynn
Tamworth

Always choose a printer that works in Centronics Parallel mode for use with the Atari. It is possible to use a printer in serial mode but it requires an RS232 interface, special driver software and will be quite slow. Provided the printer has a standard Centronics port, you should have no problem using it. You will require an interface and the one we recommend is the ICD Printer Connection available from Gralin International or you could try Derek Fern who also does a Centronics Interface. Both these folk advertise in NEW ATARI USER. The Brother M1009 should work without problem.

The interface for the typewriter is more of a problem. Many electric typewriters have this facility but you need to obtain the interface from the manufacturer or his agent. All this interface does is turn the typewriter into a Centronics printer and you will still need a further interface, as mentioned above, to attach it to your Atari.

The only cassette based word processor we know of is sold by Derek Fern but it is, as far as we are aware, available only in conjunction with the high-speed cassette modification that he sells. If you do want to do word processing without a disk drive then we would certainly recommend this high-speed modification as it will save you a considerable amount of time in saving and loading documents.

ON USING THE XF551 and TURBO BASIC

Here are some notes about the XF551 disk drive and Turbo Basic which I have discovered and have not seen mentioned elsewhere.

Firstly the XF551. To regulate the revolution speed of the disk, the drive uses the timing hole, the small hole on the disk near the big central hub hole. The drive has a LED source and sensor over the hole, the 1050 has a hole in the drive mechanism for an LED but no LED. The upshot of this is that the XF551 needs no potentiometer to control the speed which is controlled by the processor chip. So to change the speed would require a different ROM chip which would make the processor spin the drive at 288 rpm. The advantage is that the speed does not drift off the correct speed like the 1050.

Another disadvantage is that the XF551 will not format the reverse side of a disk because the timing hole is on the other side of the hub hole when the disk is flipped over. When I first tried to format the reverse side of a disk I thought that the drive was malfunctioning.

The XF551 uses a different skew than the 1050 (with US Doubler, etc.) when formatting a disk in true double density (256 bytes per sector). I have listed the number of revolutions needed to read all the 18 sectors on a track and rate at which the drive reads data from the disk.

XF551 Normal skew
15 revolutions 1.5K per sec
XF551 Sector skew
9 revolutions 2.5K per sec
1050 Normal skew
17 revolutions 1.27K per sec
1050 Sector skew
7 revolutions 3.09Kper sec

The different skews do not matter until a disk is swapped from one drive to another. 1050 sector skew disks are very slow when in the XF551 drive.

I have heard about people replacing the 40 track 5 1/2" disk drive mechanism in the XF551 with an 80 track 3 1/2" disk drive mechanism so I decided to have a go. I took the internal drive out of my ST which is 80 track and double sided. The ST drive has a 34 pin IDC connector and a 4 pin power connector. The XF551 has a 34 pin PCB connector and a 4 pin power connector. I made an adaptor to connect the XF551's PCB to the ST's IDC and attached the ST drive to the XF551. The drive worked but with one problem. I was able to format a disk with 80 tracks and read and write to it, however it only formatted one side. I do not know if this is because of incompatibility between the ST drive mechanism and the XF551 or if my adaptor had a bad connection.

Now for Turbo Basic. I have found some bugs. Printing a string that ends in CONTROL-R has the effect of having a semicolon at the end of the string. The BLOAD command does not work if the DOS is MYDOS or SpartaDos X but you can use XIO 40 instead in those DOSes. Most commands work in upper case or lower case but commands with non-alphabetical characters must be in upper case, e.g. %PUT and -MOVE.

Turbo Basic allows up to 256 variables. An elusive bug occurs however when you have a large program with around 180 or more variables. If about the 150th Variable is a string it will cause an error 8. The string can be READ, PRINTed and given values but not INPUTed. I found that if I list the program and then ENTER it this rearranges the variable table and the string can be INPUTed but another string may then be affected.

Finally some notes that I have not seen mentioned elsewhere. PUT, GET, %PUT, %GET can be used to put or get more than one number if you use commas, e.g. PUT #1,X,Y,Z. Turbo commands can be abbreviated, e.g. ENDIF can be END or ENDI.; ENDPROC can be ENDP. The Turbo Support Disk says that exit can be used from within REPEAT or WHILE loops, this is so but it will error if you try to compile the program.

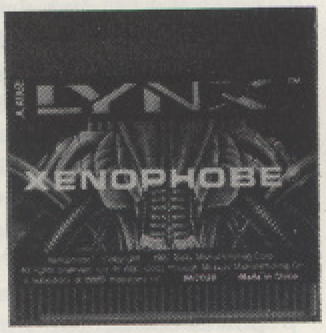
Richard Lewis,
Chiswick

Thanks for the useful information, Richard, especially using the ST disk drive with the XE. Just one point which is raised by your remarks about formatting the reverse side of a disk and finding that the ST drive would format only in single density. The XF551 needs to be configured to make it a double density drive and it appears that you haven't done this. You must send a command to the drive to tell it to format and use both sides. MYDOS contains an explanation of this and can easily be configured to set the XF551 in double sided mode when booting up. You should also be able to send the appropriate command in Basic but I am not sure how. Perhaps someone else could oblige? If you do this I am sure that the ST drive will be formatted in double density.

HANDHELD HALF DOZEN

At last a number of new games have been released for the Lynx. John Sweeney has been playing with the latest

XENOPHOBE



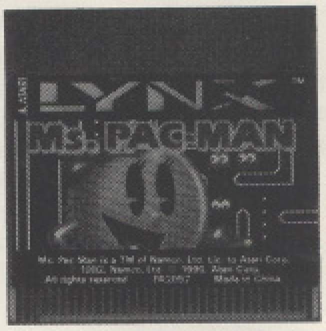
Armed with only a Phaser you must set off to clear 23 space stations of Xenos. These come in various shapes and sizes: Pods - destroy them before they hatch, Critters attack in droves and latch onto your body, Rollerbabies bowl you over, Tentacles reach out and grab you, Snotterpillars jump on you or spit at you, and Festors not only hide in doorways and paralyse you, they also lay new eggs. Each station has a number of 8-room levels linked by elevators, and fortunately you will find some useful tools along the way - better weapons, bombs, jet-packs, fire extinguishers, keys, etc. - as well as machines to help you in your fight, e.g. a self-destruct to blow up the station if you are losing! The items add an arcade adventure aspect to the game raising it above the general mindless-blasting games.

You get four lives with 2000 hit points each or you can link up with up to three other Lynxes to give yourself more chance of success! Since you are racing against the clock as well the single player version is HARD! I reached station 6 after a few tries, but it was getting difficult as the place is on fire - you really need someone else to wield the fire extinguisher as you shoot the baddies!

A nice twist on the multi-player version is that one player can choose to be a Snotterpillar and fight the others (or steal the better weapons!).

The only criticism of this excellent shoot-em-up is that you can only start from the beginning - I can't see myself ever reaching level 23 by myself so I don't suppose I will ever see the "gross, disgusting and dangerously despicable Mother Festor". (If any of this seems vaguely familiar then, yes, I reckon the authors sat through Aliens a few times!).

MS.PACMAN



A good traditional arcade game - it looks just the same on the Lynx as it did on my old 800 about a century ago! Munch all the pellets, dodge all the ghosts - I sure I don't need to tell you how Pacman works! It seems slightly harder (maybe it is a little faster) and you get less lives, also there is no Teddy-Bear (dead easy) level. On the other hand you get a set of new larger mazes as well making a total of 25 different mazes. To help you finish the new mazes there are lightning bolts to give you a speed-up if you are about to be caught. You can choose large or small mazes and you can start at any level up to the Banana (level 7). Sound effects and cartoon intervals are all faithfully recreated to give an excellent classic arcade game.

KLAX

A brilliant conversion of the highly popular arcade game. Just in case you haven't seen it yet: coloured tiles roll towards you along five ramps. You must catch all of them in your paddle and drop them into five loading bins at the front of the screen. Each of the bins and your paddle can hold five tiles. A KLAX is a row of three tiles of the same colour (horizontally, vertically or diagonally) - KLAXs disappear immediately to make room for more tiles - if you let more than a few tiles drop off the end of the ramps or if all your loading bins get full then you are dead.

At the beginning of each WAVE of tiles you are given an objective, e.g. score 10000 points, make 5 diagonal Klaxs, catch 100 tiles, which you must achieve to reach the next level.

It sounds ridiculously simple, but when the tiles start speeding up I can assure you it is a real challenge, and a highly addictive one. You can choose between Easy, Medium and Hard and you can start at level 1, 6 or 11. There are warps to get you up to the higher levels more quickly. For example if you make a "Big X" (two diagonals of five simultaneously! - usually only possible by dropping a "wild tile" into the centre) on level 11 you get a secret warp straight to level 56! Certain other levels give you a standard warp - the ability to jump 10 levels. These options mean that you no matter how good you are you can get to a challenging level very quickly!

The sound effects and speech have all been perfectly implemented on this Lynx version. A must for all arcade gamers!

ROADBLASTERS

Fasten your seatbelt, put your foot down and get a good grip on the trigger! To save the world you must beat the Death Squad in a road rally across the nuclear wastes, menaced by deadly mines, cannon towers and oil slicks, blocked by scores of enemy cars, and desperately trying to collect enough fuel to see you to the next checkpoint.

Your basic lasers will take out most of the enemy cars, and a robot jet drops more powerful weapons for you to use from time to time, such as Cruise Missiles which destroy everything for miles around!

If you go too fast you will crash into the slower cars in front of you, if you go too slowly you will run out of fuel. Crashing just wastes time - you get instant repairs! Keeping your trigger finger down may clear the road ahead effectively, but you won't score very much as points are awarded with a multiplier based on your shooting accuracy - a nice feature!

Your objective is to complete level 50, you can start on level 1, 4 or 11 and warps after certain levels allow you to skip a few or several levels (depending on your confidence!) to help you get there.

The only slight problem is that at high speeds the screen is a little blurred and it is not easy to make out what is ahead of you. Apart from that it is an excellent Overlander-style race/battle arcade game.

ZARLOR MERCENARY

All computers must have a vertically scrolling futuristic shoot-em-up - here is the first one for the Lynx! Bigger than the average in that the screen scrolls a little horizontally each way as well, Zarlor Mercenary has all the usual features: waves of alien ships; lots of ground targets for extra points/money; extra-big extra-powerful end-of-level baddies; Power Ups to grab; end-of level Shops to buy Power Ups: Extra Ship, Speed Up, Laser, Mega Bomb, Wing Cannons, Side Shooters, Super Shield, Invisibility, Power Shots, Auto Fire, Back Stabbers.

The Lasers are on button B and home in on anything that moves; Mega Bombs are on the Option 1 button and are worth saving for the end-of-level enemies.

There are six levels to fight and they get hard pretty quickly. Unfortunately you can only start at level 1. Fortunately you can get up to three friends to plug in their Lynxes and help you - I suspect that without some help level 6 is going to be nigh on impossible! (But watch out for anyone buying a Back Stabber - it can ONLY be used against other players!)

"If it moves, shoot it. If it doesn't move, shoot it anyway!" Great game.

SLIME WORLD

The best of the recent releases, Todd's Adventures in Slime World is a mix of arcade adventure, maze game, platform game and lots of other ingredients. Armed with only your trusty water-pistol you have been abandoned on the gross and repulsive Slime World. To survive you must reach the escape capsule at the other end of an enormous maze populated by such delightful creatures as Maggots, Blood-Groaches, Zits, Scabs, Drools, Headsuckers, and Tapeworms! Slime drips from the ceiling, pools of slime block your way, slime waterfalls soak you, the monsters explode into lumps of mucus (boogers!) that stick to you - all these things slowly turn you green. Touching monsters speed up the process. Luckily for you there are pools of water occasionally so that you can clean all the slime, snot and mucus off! If you turn completely green you explode!

Beware when killing red monsters - red boogers cause instant death!

Along the way, you will find lots of help: Super Slime Gems (instant cleansing), Gun Powerups, Slime Bait (lure the enemy to where you can kill or avoid them), Slime Shields, Mega Bombs (clear whole rooms), Cleansers (turn Slime Pools to water) and Jet Packs, but watch out for energy barriers that destroy all your tools!

Plus it keeps an on-screen map of your current area so that you can spot which way to try next in your search for the surface - most of the mazes are relatively straightforward - as long as you keep reaching new rooms you are probably going in the right direction - though you may have missed some of the shortcuts - there are hidden doors all over the place!

There are actually six complete games in Slime World:

1) EASY: an "easy" introductory maze.
2) EXPLORATION: a larger, harder maze to practice your skills in.
3) ACTION: an arcade style version, less problems - more fighting.
4) SUSPENSE: Just 2 minutes to get out unless you can find the mushrooms which extend the timer.
5) LOGIC: each room is a separate puzzle - over 50 of them - and your gun doesn't work!
6) ARCADE: The nastiest one of all!

In games 1-5 there are regular restart points after each few rooms - just press PAUSE and you get a code which you can use to restart the game at that point next time you have charged your batteries! But game 6 has no restart - what you really need here is some help - you can plug in up to 7 more Lynxes - watch out for traitors finding Slime Guns and using them on YOU!

The mazes are different in each game and are crammed fully of superb puzzles which you have to solve by dodging, blasting or clever use of your tools - this is VERY, VERY addictive - best game on the Lynx so far - rush out and buy it NOW!

SUMMARY

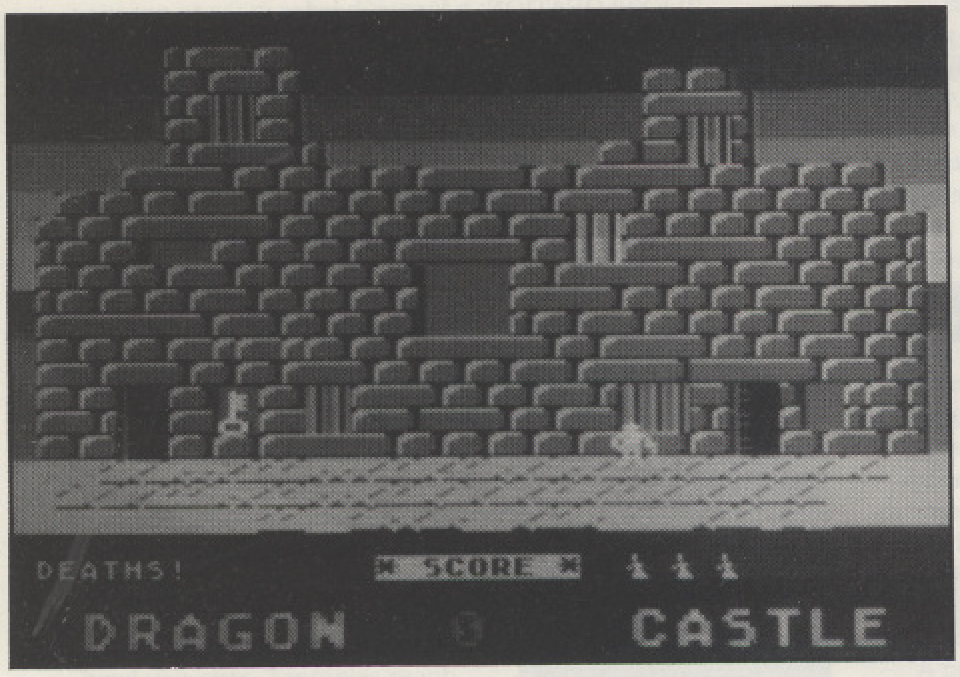
As well as the original Blue Lightning, California Games, Chip's Challenge, Gates of Zendocon and Electrocop, there are now Gauntlet III, Paperboy, Rampage, Shanghai, Rygar, and Robosquash, plus the six reviewed above. With APB, NFL Superbowl, Vindicator, World Cup Soccer, Tournament Cyberball and Ninja Gaiden all scheduled to be available by the time you read this, the Lynx is becoming a very versatile machine with a range of games to suit all tastes.

The games are generally of a very high calibre and the Lynx is still the only high quality, colour, portable machine on the market; together with a £50 price reduction a few months back (it is now listed at £129) this makes the Lynx a superb machine if you like playing anywhere, any time (and have plenty of rechargeable batteries)!

By the time you read this you should also be able to buy a 'stand alone' Lynx for just £99 which is basically the same pack without California Games. Atari have also announced a new range of peripherals for the Lynx including a car cigarette lighter power adaptor for £9.99, a 'Sun Visor' retailing at £5.99, a Lynx kit case for £14.99 and a Lynx pouch for £9.99. The cases allow storage of software along with the machine.

My thanks go to The Computer Store in Nottingham Broadmarsh for helping me try out the multi-player versions.

DRAGON CASTLE



by Dave Stubbs

Tarialot the white knight has been sent by King Atarus to the local boarding school for damsels in distress. A particularly bad infestation of Dragonus-incineratus is causing the fledgling princesses to become suicidal. Tarialot must keep the fiery fiend under lock and key by placing four keys in the east alcove of the castle wall. Successful suicides make an awful mess on the courtyard and it would be very bad form if the knight let more than three ladies perish! Catching them in open arms is the best way, catching them on the head gives our hero terminal migraine! White knights only have three lives! It's all a waste of time anyway because the cheap padlocks don't last and soon the suicides are more frequent. It keeps a knight off the streets though!

Dave Stubbs is 43 years old and is a Photographer by profession. His comments on this, his first game, are as follows.

Dragon Castle is my first try at a complete game. I've had my 800XL for nearly two years and I've had a lot of fun exploring the world of ATARI computing. An editorial about reader participation prompted me to have a go! My 800XL is a bug ridden rev. b model so I do most of my programming with the fabulous Turbo Basic booted. When I tried the game in Atari basic my heart sank at the slow action. But every problem is an opportunity in disguise! A crash course on VBIs saved the day and taught me a lot! A VBI reads the joystick input and updates the player's horizontal register. It also checks a flag and moves the falling damsel down her PMG stripe. A Display list interrupt is used for the multicoloured background to the graphics mode 12 screen. The display list is modified to give the text lines at the bottom of the display. Two small machine code routines are used. One moves blocks of data and is used to print the PMG graphics and move the character set to RAM. The second routine fills a selected area of RAM with zeros and is used to erase PMG characters.

PLAYING DRAGON CASTLE

Use a joystick in port one to control the knight. Pressing the fire button will grab keys and catch falling ladies. Up and down will let the knight enter the castle doors.

DRAGON CASTLE

```
EX 1 REM ################################
FQ 2 REM #       DRAGON CASTLE          #
GE 3 REM #            by                #
LA 4 REM #        Dave Stubbs           #
HC 5 REM # ---------------------------- #
WC 6 REM # NEW ATARI USER - APRIL '91 #
FD 7 REM ################################
NN 8 REM
AY 10 REM
TD 15 GRAPHICS 1+16
NU 20 ? #6;"   DRAGON CASTLE"
WZ 30 ? #6;"         BY"
HC 40 ? #6;"    DAVE STUBBS"
AB 50 ? #6;"____________________"
GC 60 ? #6;"collect  4  keys and";
OL 70 ? #6;"lock up the dragon."
FH 80 ? #6;"place keys in alcove";
ZF 90 ? #6;"on the castle wall. "
IB 100 ? #6;"THERE ARE 3 SUICIDAL";
PT 110 ? #6;"LADIES TO BE SAVED!"
FV 120 ? #6;"DON'T LOSE THEM ALL!"
ZM 130 ? #6;"ONCE A KNIGHT ALWAYS";
PH 140 ? #6;"A KNIGHT!!  BUT YOU";
XC 150 ? #6;"ONLY HAVE THREE!    "
VJ 160 ? #6;"passing the dragon's";
AC 170 ? #6;"fire? an inside job!"
FU 180 ? #6:? #6;"....PRESS START....."
BK 190 IF PEEK(53279)<>6 THEN 190
KY 200 GRAPHICS 1+16:POSITION 0,10:? #6;"     back in":? #6;"    TWENTY FIVE":? #6;"      SECONDS..."
JH 210 FOR D=1 TO 1000:NEXT D
PN 220 POKE 106,160
EZ 230 GOSUB 2390:REM SET UP
MJ 240 GOTO 300
ZB 250 REM  CHECK COLLISION REGISTERS
DV 260 IF PEEK(53260)=4 THEN POKE 1666,0:CEYFLAG=0:GOSUB 1230:REM lady/man
WA 270 IF PEEK(53262)=8 AND PEEK(623)=1 THEN CEYFLAG=0:GOSUB 1330:REM burned
VF 280 POKE 53278,0:RETURN
LD 290 REM           MAIN LOOP . .  .  .
SH 300 ON PEEK(54016)-244 GOSUB 530,530,470,530,530,530,410,530,980,860,530
TJ 310 GOSUB 250
ZR 320 IF PEEK(1665)>94 THEN POKE 1666,0:SOUND 2,250,8,12:GOSUB 1400:REM Reached the floor!
KW 330 GOSUB 620:REM Random event?
SY 340 IF FLAMEFLAG AND FLASH THEN GOSUB 1140
GM 350 IF FLAMEFLAG AND FLASH=0 THEN GOSUB 1170
FT 360 IF FLADY THEN GOSUB 790
MQ 370 GOTO 300
VB 380 REM        DISPLAY PLAYERS
MA 390 REM ..........................
PY 400 REM MAN MOVES LEFT
XJ 410 X=USR(ADR(MOVE$),MAN1,MANPOS,14)
AC 420 SOUND 1,150,8,8
YM 430 X=USR(ADR(MOVE$),MAN2,MANPOS,14)
WH 440 SOUND 1,0,0,0
ZK 450 RETURN
UB 460 REM MAN MOVES RIGHT
AS 470 X=USR(ADR(MOVE$),MAN4,MANPOS,14)
ZC 480 SOUND 1,150,8,6
BV 490 X=USR(ADR(MOVE$),MAN5,MANPOS,14)
WA 500 SOUND 1,0,0,0
ZD 510 RETURN
AD 520 REM MAN STANDS STILL
CJ 530 X=USR(ADR(MOVE$),MAN6,MANPOS,14)
FR 540 IF FLADY THEN GOSUB 790
KF 550 IF STRIG(0)=0 THEN X=USR(ADR(MOVE$),MAN3,MANPOS,14)
EE 560 D=PEEK(1664)
OG 570 IF STRIG(0)=0 AND CEYFLAG=2 AND D>182 AND D<190 THEN GOSUB 1540
NI 580 IF STRIG(0)=0 AND PEEK(53261)<>0 AND PEEK(1664)<100 THEN GOSUB 1450
ZT 590 RETURN
UR 600 REM    READY FOR A HAPPENING?
TL 610 REM suicidal lady!
XT 620 IF FLAG=0 AND INT(RND(0)*(50/LEVEL))=2 THEN FLAG=1:HLADY=INT(RND(0)*140+60):GOSUB 740:RETURN
UL 630 REM dragon appears!
HN 640 IF DRAGFLAG=0 AND INT(RND(0)*(40/LEVEL))=2 THEN DRAGFLAG=1:GOSUB 1070
BS 650 IF DRAGFLAG=1 AND INT(RND(0)*10)=2 THEN FLAMEFLAG=1:POKE 707,46:POKE 19,0
CW 660 IF FLAMEFLAG THEN SOUND 3,FLASH*10,8,2
WX 670 IF FLAMEFLAG=1 AND PEEK(19)=1 THEN SOUND 3,0,0,0:POKE 707,180:GOSUB 1360:REM turn dragon off
RF 680 FLASH=FLASH+1
AA 690 IF FLASH=2 THEN FLASH=0
EV 700 IF CEYFLAG=0 THEN CEYFLAG=1:GOSUB 1100:REM key appears
ZF 710 RETURN
LQ 720 REM ..........................
MU 730 REM  LADY ON THE WALL!!!!
WK 740 POKE 53248,HLADY:X=USR(ADR(MOVE$),LADY2,LADYPOS+3,11)
ZK 750 FLADY=1:WALK=INT(RND(0)*4)-1
PR 760 SOUND 2,HLADY,2,8
ZR 770 RETURN
ZZ 780 REM   LADY IN WAITING!!!
BR 790 WAIT=WAIT+1:IF HLADY>192 OR HLADY<64 THEN WAIT=10
VZ 800 HLADY=HLADY+WALK
MG 810 POKE 53248,HLADY
JS 820 IF WAIT>8 THEN POKE 1666,1:FLADY=0:WAIT=0:REM Off she goes!!!
WU 830 SOUND 2,0,0,0
ZM 840 RETURN
QR 850 REM  ..  .THROUGH THE DOORS.  .
YQ 860 D=PEEK(1664):REM man horiz position
CV 870 FOR MANPOS=M TO M-3 STEP -1
CH 880 X=USR(ADR(MOVE$),MAN4,MANPOS,15)
UC 890 NEXT MANPOS
SN 900 IF D>60 AND D<68 OR D>166 AND D<180 THEN 940
EV 910 FOR MANPOS=M-4 TO M
YZ 920 X=USR(ADR(MOVE$),MAN1,MANPOS,15)
ZT 930 NEXT MANPOS:RETURN
QW 940 FOR D=14 TO 16:POSITION 4,D:PRINT #6;"  ":POSITION 31,D:PRINT #6;"  ":NEXT D
JG 950 POKE 623,2
ZR 960 RETURN
PG 970 REM         OUT THE DOORS
EE 980 D=PEEK(1664):IF D>60 AND D<166 OR D>166 AND D<180 THEN 1000
ZX 990 RETURN
NB 1000 POKE 623,1
JU 1010 FOR MANPOS=M-4 TO M
JR 1020 X=USR(ADR(MOVE$),MAN1,MANPOS,15)
HJ 1030 NEXT MANPOS
JQ 1040 FOR D=14 TO 16:POSITION 4,D:PRINT #6;"▛▜":POSITION 31,D:PRINT #6;"▛▜":NEXT D
AO 1050 RETURN
HZ 1060 REM  .SHOW DRAGON        .
HV 1070 X=USR(ADR(MOVE$),DRAGON,DRAGPOS,14)
AX 1080 RETURN
NW 1090 REM      SHOW KEY (CEY)
WD 1100 X=USR(ADR(MOVE$),CEY,CEYPOS,14)
MJ 1110 POKE 77,0:REM disable ATRACT
AH 1120 RETURN
UR 1130 REM    DISPLAY TOP FLAMES
ZD 1140 X=USR(ADR(FLUSH$),FLAMEPOS,30):X=USR(ADR(MOVE$),FLAME,FLAMEPOS,14):POKE 707,46
AQ 1150 RETURN
CB 1160 REM    DISPLAY LOWER FLAMES
NT 1170 X=USR(ADR(FLUSH$),FLAMEPOS,30):X=
```

continued

DRAGON CASTLE

```
   USR(ADR(MOVE$),FLAME,FLAMEPOS+24,14):P
   OKE 707,250
AZ 1180 RETURN
AA 1190 REM   ERASE LADY
TP 1200 X=USR(ADR(FLUSH$),LADYPOS,150)
AG 1210 RETURN
XD 1220 REM   CALCULATE  SCORES
MM 1230 REM lady/man
QT 1240 IF STRIG(0)=0 THEN SCORE=SCORE+1:
   SOUND 2,50,8,12:GOTO 1270
GU 1250 DED=DED+2:IF DED=8 THEN FINISH=1:
   GOSUB 1830
DE 1260 FOR S=255 TO 2 STEP -20:SOUND 2,S
   ,8,6:NEXT S
HT 1270 GOSUB 1660:REM print scores
PU 1280 X=USR(ADR(FLUSH$),LADYPOS-4,100):
   POKE 1665,0:POKE 1666,0:FLAG=0
OY 1290 POKE 53278,0:SOUND 2,0,0,0:REM RE
   SET COLLISION REGISTERS
AF 1300 RETURN
NL 1310 REM .........................
BW 1320 REM man burned!
LK 1330 FOR S=1 TO 50:POKE 706,0:POKE 708
   ,15:SOUND 1,S,2,8:POKE 706,15:POKE 708
   ,6:NEXT S
NL 1340 SOUND 1,8,8,12:DED=DED+2:IF DED=8
    THEN FINISH=1:GOSUB 1830
DK 1350 GOSUB 1660
OC 1360 X=USR(ADR(FLUSH$),DRAGPOS,30):DRA
   GFLAG=0:FLAMEFLAG=0:SOUND 3,0,0,0
LA 1370 POKE 53278,0:SOUND 1,0,0,0:RETURN
DM 1380 REM ..........................
CI 1390 REM lady hits the ground
NI 1400 GIRL=GIRL+2:IF GIRL=8 THEN FINISH
   =2:GOSUB 1830
EC 1410 GOSUB 1680
CF 1420 GOSUB 1280
AQ 1430 RETURN
TK 1440 REM   GET THE KEY
TP 1450 X=USR(ADR(FLUSH$),CEYPOS,15)
BU 1460 FOR V=12 TO 2 STEP -1
ZV 1470 SOUND 1,2,10,12:SOUND 1,4,14,V
IO 1480 SOUND 1,0,0,0
LL 1490 NEXT V
XQ 1500 CEYFLAG=2
DN 1510 POKE 53278,0
AP 1520 RETURN
AF 1530 REM   KEY IN LOCK
CZ 1540 POKE 53249,185
XV 1550 GOSUB 1100
YZ 1560 FOR S=1 TO 20:SOUND 1,S,10,8:NEXT
    S
IN 1570 SOUND 1,0,0,0
UA 1580 X=USR(ADR(FLUSH$),CEYPOS,15)
PW 1590 POKE 53249,80
TV 1600 LOK=LOK+2
UW 1610 SCORE=SCORE+10:GOSUB 1690
FK 1620 IF LOK=8 THEN FINISH=3:GOSUB 1830
WZ 1630 CEYFLAG=0
AX 1640 RETURN
AM 1650 REM   PRINT SCORE LINES
MQ 1660 POSITION 9,23:PRINT #6;SCORE
OP 1670 IF DED>0 THEN POSITION DED+7,21:P
   RINT #6;"_"
JD 1680 IF GIRL>0 THEN POSITION 24+GIRL,2
   1:PRINT #6;" "
VT 1690 IF LOK>0 THEN POSITION 30+LOK,21:
   PRINT #6;"‾"
MA 1700 POSITION 9,23:PRINT #6;SCORE
AQ 1710 RETURN
CJ 1720 REM   ZERO SCORE PANEL
SF 1730 DED=0:GIRL=0:LOK=0:POKE 19,0:FLAG
   =0:CEYFLAG=0:FLAMEFLAG=0:DRAGFLAG=0:LE
   VEL=1
AR 1740 POSITION 0,21:PRINT #6;"DEATHS!>
         * SCORE *  "
YK 1750 POSITION 26,21:PRINT #6;"• • •"
YL 1760 POSITION 33,21:PRINT #6;"       "
GI 1770 POSITION 7,21:PRINT #6;"       "
TN 1780 POSITION 31,21:PRINT #6;"
   "
PT 1790 POSITION 0,23:? #6;" dragon
   castle "
NS 1800 POKE 53278,0:REM clear collision
AS 1810 RETURN
PM 1820 REM   END OF GAME
BV 1830 FOR S=0 TO 3:SOUND S,0,0,0:NEXT S
XD 1840 POKE 1666,0:REM stop falling lady
IW 1850 ON FINISH GOTO 1980,2010,2040
WC 1860 GOSUB 2150:POSITION 0,21:PRINT #6
   ;" Hold down [START] for another game
      "
PK 1870 FOR D=1 TO 100:NEXT D
HS 1880 POSITION 0,21:PRINT #6;"    YOUR
   FINAL SCORE WAS             ":POSITIO
   N 26,21:PRINT #6;SCORE
PQ 1890 FOR D=1 TO 100:NEXT D
DG 1900 IF PEEK(53279)<>6 THEN 1860
HW 1910 SCORE=0
GM 1920 SOUND 1,0,0,0:SOUND 3,0,0,0:POP :
   POP
CQ 1930 GOSUB 2270
WI 1940 X=USR(ADR(FLUSH$),PMBASE+1024,102
   4):REM erase pmg characters
RH 1950 GOSUB 1730:POKE 1665,0:POKE 1666,
   0:POSITION 9,23:PRINT #6;SCORE;:GOTO 3
   00
DA 1960 REM   END OF GAME MESSAGES
IL 1970 REM All Knights Dead
FR 1980 POSITION 0,23:PRINT #6;" end of t
   he knight! "
UZ 1990 GOTO 1860
VR 2000 REM All Ladies Dead
PH 2010 POSITION 0,23:PRINT #6;"good knig
   ht princess"
TN 2020 GOTO 1860
JL 2030 REM ALL Locks Secured
NA 2040 F=200:D=1
RB 2050 FOR S=SCORE TO SCORE+100
QS 2060 SOUND 1,F,10,10:SOUND 0,D,14,10
GB 2070 F=F-1:D=D+1
GN 2080 POSITION 9,23:PRINT #6;S;
JX 2090 NEXT S
FU 2100 SOUND 1,0,0,0:SOUND 0,0,0,0:SCORE
   =S
OX 2110 LEVEL=LEVEL+1
RM 2120 LOK=0:FLAG=0:POSITION 32,21:PRINT
    #6;"        ":GOSUB 1200
DA 2130 POKE 53278,0:POKE 1665,0:RETURN
EL 2140 REM   LIGHTNING ROUTINE
JS 2150 FOR S=1558 TO 1568:POKE S,0:POKE
   708,15
BA 2160 SOUND 1,2,8,12:POKE S,15:POKE 708
   ,0
QM 2170 POKE 53768,32
BP 2180 POKE S,0:SOUND 1,255,6,12:POKE 53
   768,1
JZ 2190 NEXT S
ZP 2200 FOR V=12 TO 0 STEP -1
QV 2210 SOUND 1,255,8,V
QA 2220 FOR D=1 TO 5:NEXT D
KQ 2230 NEXT V
HA 2240 POKE 708,2:POKE 710,4:POKE 709,13
   8:POKE 712,0
YG 2250 SOUND 1,0,0,0:RETURN
MI 2260 REM   DAYLIGHT ROUTINE
NR 2270 RESTORE 2360
FT 2280 D=240
OH 2290 FOR S=1558 TO 1568:READ B:POKE S,
   B
CO 2300 FOR T=1 TO 5
UF 2310 SOUND 1,D,14,12:D=D-2
JT 2320 NEXT T
UV 2330 POKE 708,6:POKE 709,10:POKE 710,4
   :POKE 712,242:SOUND 1,0,0,0
IW 2340 D=D-1
JR 2350 NEXT S
CX 2360 DATA 244,246,248,250,252,164,166,
   10,4,34
BB 2370 RETURN
XD 2380 REM         SET UP ROUTINES
```

DRAGON CASTLE

```
TN 2390 GOSUB 2720:REM Variables.
AD 2400 POKE 559,0:GOSUB 3240:REM Display
    list stuff
NM 2410 GOSUB 2530:REM M/C Data shifter.
MP 2420 X=USR(ADR(FLUSH$),PMBASE,2000):RE
    M Flush Pmbase ram.
WA 2430 GOSUB 2690:REM Move Character set
OP 2440 GOSUB 2780:REM Character Data.
UB 2450 GOSUB 3010:REM Draw Screen.
JI 2460 GOSUB 3390:REM P/Missile stuff.
NV 2470 GOSUB 3740:REM Vbi setup
HR 2480 GOSUB 1730:REM Zero scoreline
AB 2490 POKE 559,62
AK 2500 RETURN
OZ 2510 STOP
MC 2520 REM  READ IN M/C (DATA SHIFTER)
OP 2530 RESTORE 2560
GO 2540 FOR S=1 TO 87:READ D:MOVE$(S,S)=C
    HR$(D):NEXT S
IW 2550 REM
VT 2560 REM DATA FOR MACHINE CODE TO
    SHIFT DATA
RP 2570 DATA 104,201,3,208,81,104,133,225
    ,104,133,224,104,133,227,104,133,226,1
    04,133,229
SB 2580 DATA 104,133,228,169,0,133,230,13
    3,231,168,177,224,145,226,24,169,1,101
RD 2590 DATA 224,133,224,169,0,101,225,13
    3,225,24,169,1,101,226,133,226,169,0,1
    01,227,133,227,24
RN 2600 DATA 169,1,101,230,133,230,169,0,
    101,231,133,231,24,165,228,197,230,208
    ,206,165
MQ 2610 DATA 229,197,231,208,200,96
UX 2620 REM Machine code for flusher
GV 2630 FOR D=1 TO 42:READ B:FLUSH$(D,D)=
    CHR$(B):NEXT D
TL 2640 DATA 104,104,133,204,104,133,203,
    104,133,206,104,133,205,166,206,160,0,
    169,0,145,203,136
PC 2650 DATA 208,251,230,204,202,48,6,208
    ,244,164
OP 2660 DATA 205,208,240,198,204,160,0,14
    5,203,96
BH 2670 RETURN
NV 2680 REM  MOVE CHARACTER SET TO RAM
FJ 2690 X=USR(ADR(MOVE$),57344,CBASE,1024
    )
AO 2700 RETURN
HZ 2710 REM   VARIABLES AND CONSTANTS
VN 2720 DIM MOVE$(90),FLUSH$(42)
HS 2730 LEVEL=1
TV 2740 START=PEEK(106)-24:CBASE=START*25
    6:PMB=PEEK(106)-16:GRAPHICS 12+16:PMBA
    SE=PMB*256
NS 2750 NBASE=CBASE+65*8
BG 2760 RETURN
JS 2770 REM  READ IN CHARACTER DATA
PF 2780 RESTORE 2830
RW 2790 FOR C=0 TO 119
QU 2800 READ BYTE:POKE NBASE+C,BYTE
CV 2810 NEXT C
AW 2820 RETURN
PR 2830 REM  DATA FOR REDEFINED STUFF
XV 2840 DATA 234,169,165,149,149,149,149,
    255
IT 2850 DATA 175,87,87,87,87,87,95,255
WT 2860 DATA 170,85,85,85,85,85,85,255
SP 2870 DATA 44,44,44,44,44,44,44,44
CD 2880 DATA 170,85,255,51,85,85,170,85
KT 2890 DATA 235,165,151,151,151,151,151,
    255
PO 2900 DATA 213,213,213,213,213,213,213,
    213
ZJ 2910 DATA 85,85,85,85,85,85,85,85
KX 2920 DATA 127,127,87,127,127,87,127,12
    7
MN 2930 DATA 255,255,255,255,255,255,255,
    255
WA 2940 DATA 170,170,170,170,169,170,154,
    254
QW 2950 DATA 169,170,154,106,170,170,170,
    255
FR 2960 DATA 60,66,66,255,231,195,231,255
HU 2970 DATA 60,126,90,126,36,153,90,129
ML 2980 DATA 48,48,16,60,218,28,62,63
AG 2990 REM  DRAW CASTLE SCENE
HV 3000 REM GRAPHICS 12
EL 3010 ? #6;"        /├ |├ |"
JP 3020 ? #6;"         ├ |├ |├
    ├ |├ |"
AN 3030 ? #6;"        /H┤├ |
    ├┘┘ |"
ZO 3040 ? #6;"         ├ H┤├ |
    ├ H┤ |"
XO 3050 ? #6;"        /├┘┘ V                ├ |
    ┘ H┤ |"
DS 3060 ? #6;"      ├┘┘ |├ |├ |├ |├ |├┘┘ |├ |├┘
    ┘┘ |├ |├ |├ |├ |   ";
PU 3070 ? #6;" ├ |├ |├ |├ |├ |├ |├ |├ |├ |├ |├┘ |
    ├ |├ |├ |├ |├ |├ | ";
BF 3080 ? #6;"├ |├ |├┘┘┘┘ |├ |├ |├ |├ |├ |├ H┤├
    |├ |├ |├ |├ |├ |├ |";
KM 3090 ? #6;"/├ |├ ◣◢◢├ |├ |├ |├ |├┘┘┘ |├ H┤├
    ┘┘┘┘┘ |├ |├ |├ V";
JK 3100 ? #6;"├ |├ |├ |├ |├ |├ |├ |├ ◣◢◢◢├ |├┘┘
    ┘ |├ |├ |├ |├ |├/";
JN 3110 ? #6;"/├ |├ |├ |├ |├ |├ |├ |├◣◢◢◢├┘┘ |├
    |├ |├ |├ |├ |├ V";
GP 3120 ? #6;"├┘┘┘┘┘ |├ |├ |├ |├ ◣◢◢◢/├ |├ |
    ├ |├ |├ |├ |├ |├ |";
OG 3130 ? #6;"├ |├ |├ |├ ├├ ├├ |├ |├┘┘┘┘ |├ |├
    ┘┘ |├ |├ |├ |├ V";
QL 3140 ? #6;"├ |├┘ |├ |├ |├┘ |├ |├ |├ |├ |├┘
    ┘ ├┘┘┘┘ |├ |├ |";
IM 3150 ? #6;"├ |├ ▛▜├ ◣◢├ H┤├┘ |├ |├ |├ V┤
    ┤┤┘ ▛▜ ◣◢├├ V";
XT 3160 ? #6;"├ V▛▜├◣◢├┤┤├ ├┘┘ |├ |├ H
    ┤┤ V▛▜├◣◢/├ V";
FL 3170 ? #6;"├ |├ ▛▜├ |├ |├┘┘┘ |├ |├ |├ |├ |├┘
    ┘ |├ ▛▜├ |├ |├ |";
IY 3180 ? #6;"   ▪ ▬ ▪▪▬▪▪ ▪▪▬▪ ▬▪ ▪▬ ▪▬▪
    ▪▬ ▬ ▬·▬ ▬    ";
AA 3190 ? #6;" ▪ ▬ ▬▪▪ ▪▬▪ ▪▪▬▪ ▬ ▬ ▬▪ ▬▪
    ▬ ▬ ▬ ▬        ";
KD 3200 ? #6;"               ▪▪  ▪ ▪▬ ▪  ▬▪ ▪
     ▬▪ ▪        ";
UN 3210 POKE 756,CBASE/256:POKE 708,6:POK
    E 709,10:POKE 710,4:POKE 711,242
AL 3220 RETURN
QU 3230 REM  DISPLAY LIST STUFF
NX 3240 RESTORE 3360
DB 3250 FOR D=0 TO 40
QY 3260 READ B:POKE 1536+D,B
DN 3270 NEXT D
QI 3280 DLIST=PEEK(560)+PEEK(561)*256
OC 3290 POKE DLIST+2,PEEK(DLIST+2)+128
UT 3300 FOR D=6 TO 16 STEP 2:POKE DLIST+D
    ,PEEK(DLIST+D)+128:NEXT D
CS 3310 POKE DLIST+21,PEEK(DLIST+21)+128
IP 3320 POKE DLIST+24,PEEK(DLIST+24)+128
JR 3330 POKE DLIST+26,130:POKE DLIST+28,7
PM 3340 POKE 512,0:POKE 513,6:POKE 54286,
    192:POKE 712,242
AW 3350 RETURN
EN 3360 DATA 72,138,72,174,32,6,189,22,6,
    141,26,208,141,10,212,238,32,6,104,170
    ,104
MD 3370 DATA 64,244,246,248,250,252,164,1
    66,10,4,34,34,0,0,0,0,0,0,0,0
VF 3380 REM  PLAYER MISSILE STUFF
XW 3390 POKE 54279,PMB
IO 3400 PMBASE=PMB*256
EX 3410 POKE 53277,3
OK 3420 RESTORE 3460
IP 3430 REM
OX 3440 REM PLAYER DATA STORED ABOVE
            PMBASE
YA 3450 FOR D=1 TO 14:READ B:POKE PMBASE+
    D,B:NEXT D:DRAGON=PMBASE+1
```

continued

DRAGON CASTLE

```
UL 3460 DATA 129,90,60,90,90,60,219,255,165,129,90,60,66,195
GQ 3470 FOR D=15 TO 30:READ B:POKE PMBASE+D,B:NEXT D:LADY=PMBASE+15
YR 3480 DATA 0,0,67,34,34,63,31,15,14,28,60,126,74,153,61,25
WK 3490 FOR D=31 TO 45:READ B:POKE PMBASE+D,B:NEXT D:MAN1=PMBASE+31
RI 3500 DATA 0,152,184,176,156,186,121,186,40,124,230,198,135,65,130
SY 3510 FOR D=46 TO 59:READ B:POKE PMBASE+D,B:NEXT D:MAN2=PMBASE+46
QL 3520 DATA 24,56,48,24,188,126,60,24,30,63,49,48,48,96
GG 3530 FOR D=60 TO 73:READ B:POKE PMBASE+D,B:NEXT D:MAN3=PMBASE+60
WI 3540 DATA 145,185,251,214,126,124,124,60,58,41,40,40,40,108
BQ 3550 FOR D=74 TO 88:READ B:POKE PMBASE+D,B:NEXT D:MAN4=PMBASE+74
ZW 3560 DATA 25,57,25,17,57,124,155,153,28,54,51,98,68,34,0
HF 3570 FOR D=89 TO 102:READ B:POKE PMBASE+D,B:NEXT D:MAN5=PMBASE+89
XW 3580 DATA 8,28,28,8,24,60,92,58,25,56,244,132,8,12
ZA 3590 FOR D=103 TO 116:READ B:POKE PMBASE+D,B:NEXT D:LADY2=PMBASE+103
RP 3600 DATA 24,44,36,8,60,126,122,185,185,56,60,124,126,127
DY 3610 FOR D=117 TO 130:READ B:POKE PMBASE+D,B:NEXT D:MAN6=PMBASE+117
CD 3620 DATA 16,56,16,56,124,186,186,187,120,41,40,41,40,109
UP 3630 FOR D=131 TO 145:READ B:POKE PMBASE+D,B:NEXT D:CEY=PMBASE+131
CY 3640 DATA 16,28,24,28,24,28,16,16,16,56,68,68,68,56
NM 3650 FOR D=146 TO 160:READ B:POKE PMBASE+D,B:NEXT D:FLAME=PMBASE+146
QN 3660 DATA 16,56,56,16,36,12,6,126,116,32,8,92,252,234,85
SP 3670 MANPOS=PMBASE+1536+157:MH=150:POKE 706,15:POKE 623,1:POKE 53250,150:M=MANPOS
PG 3680 LADYPOS=PMBASE+1024+58:POKE 704,126:POKE 53248,80
CO 3690 DRAGPOS=PMBASE+1792+114:POKE 707,180:POKE 53251,120
EM 3700 CEYPOS=PMBASE+1280+146:POKE 705,255:POKE 53249,80
VF 3710 FLAMEPOS=DRAGPOS+14
AV 3720 RETURN
YB 3730 REM    MACHINE CODE FOR VBI
NM 3740 RESTORE 3800
KZ 3750 FOR D=1581 TO 1671
ZF 3760 READ B:POKE D,B
DX 3770 NEXT D
RH 3780 POKE 549,6:POKE 548,45
BQ 3790 RETURN
BU 3800 DATA 8,72,138,72,152,72,173,0,211,201,247,240,7,201,251,240,15,76,86,6
BT 3810 DATA 238,128,6,173,128,6,141,2,208,76,86,6,206,128,6,173,128,6,141,2,208
SC 3820 DATA 173,130,6,240,23,160,0,174,129,6,185,15,144,157,58,148,200,232,192,14,240
JH 3830 DATA 3,76,96,6,238,129,6,169,0,141,32,6,104,168,104,170,104,40,76,98
ZK 3840 DATA 228,120,0,0,0,0,0,0
LQ 3850 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
```

REVIEW

DOS X

reviewed by Steven Wi

When Atari engineers first proposed the XF551, Atari's first double density, double sided disk drive, it became apparent that more than a revamped version of DOS 2.5. would be needed if users were to exploit the new power of the XF551. Bill Wilkinson, author of Atari DOS and Atari BASIC, took on the task of writing a new Atari DOS capable of accessing the XF551's 360K capacity.

Work on Ados, as it was then known, began although commercial considerations delayed and then accelerated the XF551 release date and the result was that the XF551 was released in mid 1988 with DOS 2.5. Finally work on Ados, renamed DOS XE, was completed in January 1989 and the new DOS hit the shops, at least in some countries!.

DOS XE uses memory in parallel with the OS Rom for certain functions and is thus incompatible with the old 400/800 systems, however, one advantage is that with DOS XE residing entirely in memory instant access to DOS from Basic is available. Certain DOS functions will erase any programs in memory but DOS XE always lets you know when your Basic program is in danger and gives you the chance to continue or cancel the option.

When you boot DOS XE without Basic you are greeted with a simple main menu screen. From here, pressing a key and Return will take you to either the File Access Menu, the Machine Language Access Menu or to the Systems Functions Menu. If you have entered DOS from Basic, you will also see an Exit to Basic option.

All three menus have a files listing option and allow you to change the "working directory" and pressing the Escape key will return you to the main screen from any of the menus. DOS XE is the first Atari DOS capable of using subdirectories which, in theory, make one DOS XE disk work like several disks linked together. On boot up the working directory is the "Root" which can contain files or subdirectories.

Apart from several new options which we will see later on, most of the existing DOS functions have been enhanced to make them more user friendly and to take advantage of the new file management system. Where viable, DOS XE accepts input from or sends output to files or devices (S:, E: or P:).

The files listing option will ask "list to where?" after you have specified a source path. Press Return and the listing will be printed on screen, enter "P" and it will send it to the printer whilst entering "D1>DISK.LIS" will send it to a file (created at the same time) called DISK.LIS, the contents of which can be seen with the "View file" option.

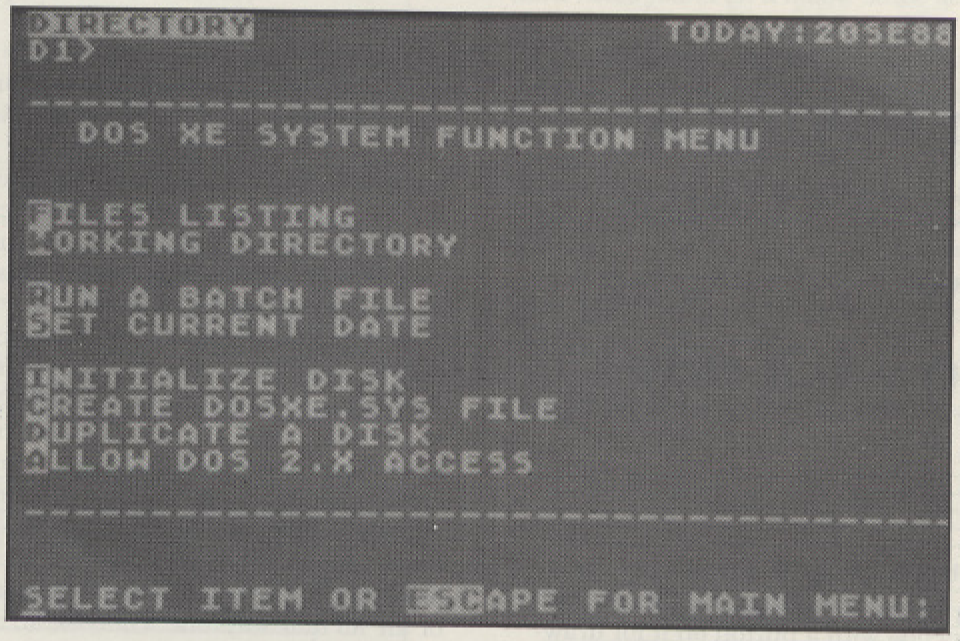
The Copy files option can now work with files and subdirectories and will also verify each file name. See figure 1 for an example. It is also possible to initialize a disk in 810 mode, 1050 mode, XF551 mode or single sided double density, giving up to 360K on each disk.

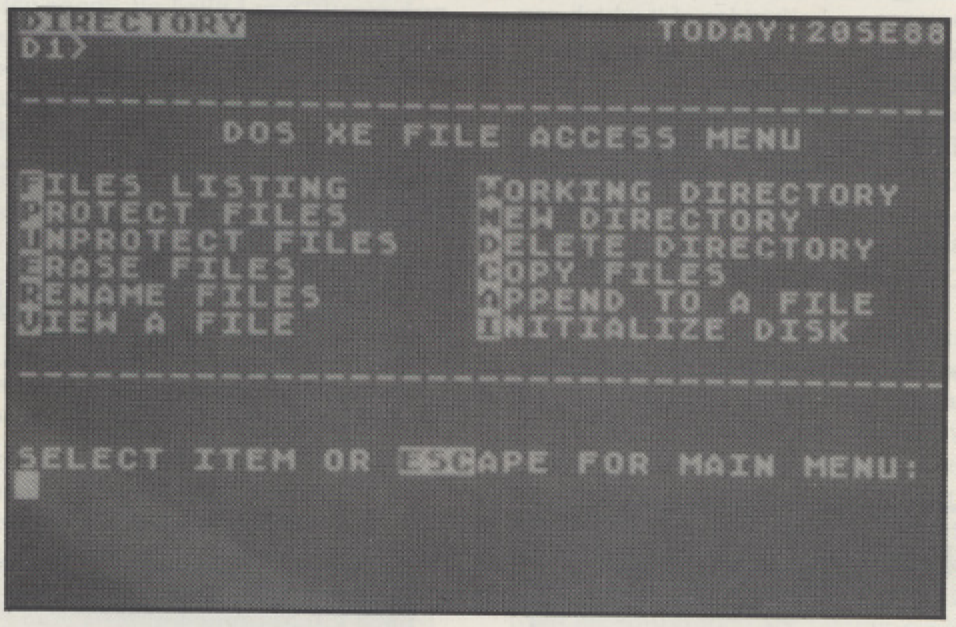
DOS XE can access DOS 2.X disks through its "Allow DOS 2.X access" option. To save on memory the code for DOS 2 is

XE

ven Wilds

loaded only when requested and from then on you can access any DOS 2.X disk by using the device name A: instead of D:. All DOS functions except those that use the new file management system can be used with DOS 2.X disks. DOS 3 has been left in the cold although there is a file called "COPY3_XE.COM" on the DOS disk to convert DOS 3 disks to DOS XE format.





The Machine Language Access Menu must be heaven for programmers and power users. Options include running, loading and executing binary files, saving memory in binary format, appending memory to binary files and changing contents of RAM. All entries are made in hexadecimal or in decimal.

Also in this menu are the files listing and working directory options.

In the third menu - The systems function menu, apart from the "Allow DOS 2.X access" option, you can save a configured version of DOS XE, duplicate an entire disk, set current date and execute batch files.

Batch files are a fast way of executing a series of DOS XE commands previously stored on disk and DOS XE has several features to simplify their use. A batch facility allows you to enter several commands on one line but any options which require function key presses to continue; i.e. "PRESS START TO COPY FILES" cannot be used this way. The full stop "." works like the escape key which moves you from a menu to the main screen. Also because DOS XE examines only the first letter of each entry on a line you can use explanatory terms like Filemenu or Sysmenu instead of F or S. Commands are separated by spaces and finally the exclamation mark works like the REM statement - anything after it is ignored.

With DOS XE you can now set the current date and it uses the information for the Date created and Date last modified stamps on your files.

You can make your own configured version of DOS XE with the SETUP. COM program - a binary file loaded from the Machine Language Access menu. With SETUP.COM you can create AUTORUN.SYS files that initialize the RAMdisk, load the RS232 driver and autorun a Basic program. It lets you specify which types of disk drives you have from a choice of the Atari 810, 1050, XF551, 130XE RAMdisk and SSDD drive . Atari have done a great deal to make sure existing software will run under DOS XE by keeping memory map and CIO entry point compatibility with the older DOS 2.X systems.

Software that sends filenames to "D1:FILE" will be interpreted by DOS XE as "D1> working directory>FILE".

No documentation is included on disk although the elusive DOS XE manual is one of the best Atari have ever published with ample information for beginners and serious programmers. The manual gives a complete rundown of the changes to the NOTE and POINT commands and the new XIO functions which make use of the new DOS.

Both DOS XE and its manual were around when Atari UK launched the XF551 in this country. The fact that the XF551 has not been available over here for over a year could be due to no more XF551 stock or the fact that Atari UK faced with threats of liability under the Trades description act (see Page 6 issue 38!) decided to pull the plug on what is a really great disk drive.

The final verdict? - DOS XE is a powerful user friendly DOS. Its ease of use makes it ideal for those who wish to improve their system and first time buyers whilst its power features make it ideal for programmers. Well done Atari! - lets see some more software.

I would like to thank ATARI SPAIN for their cooperation - especially for the DOS XE manual and the rest of the guys at Anglo Computer Club. This article is dedicated to those who continue to fight for the best 8-bit ever. Keep it up!

TAKE ONE TABLET

Is it worth buying a Touch Tablet? Colin Paine shows you what you can do with one

The Atari Touch Tablet is basically a sleek grey A5 sketch pad with a few extra features. It has a stylus which is a sort of pencil with a button on it for drawing. It also has two large buttons on both sides of it which can act the same as, or differently from, the stylus button depending on the program. Could it be the perfect tool for graphics?

At one time or another everyone has done some graphics whether for a program or fun, but to produce high quality graphics with a joystick is no easy feat. There are some good quality joystick controlled graphic designers around but still a lot of skill is needed to draw from life or copy. A touch tablet makes it a lot easier. Also your thumb doesn't ache so much afterwards!!!

When my Touch Tablet arrived through the post, I ran up to my computer to try it out. I plugged it into joystick port 0 and fixed the stylus (a pen you use to draw on it with) into the back of it. Then I plugged in my Atari Artist cartridge without reading the manual. After a few seconds I was greeted with the menu. I placed the stylus on the tablet and selected Help. I was told that lifting the stylus of the tablet and pressing the button would take me between the menu and the drawing screen. I returned to the menu, selected draw and went to the drawing screen. I pressed the button and just drew lines all over the screen. It was great; it followed every movement I made with the stylus.

I returned to the menu and had a look at the options. The options were Draw, Point, Line, K-Line, Rays, Fill, Frame, Box, Circle, Disc, Erase Screen, Storage, Magnify, Mirror, Colour Menu plus brush shapes, colours and patterns at the bottom of the screen. After consulting the manual I discovered that the options could be selected by keyboard or tablet.

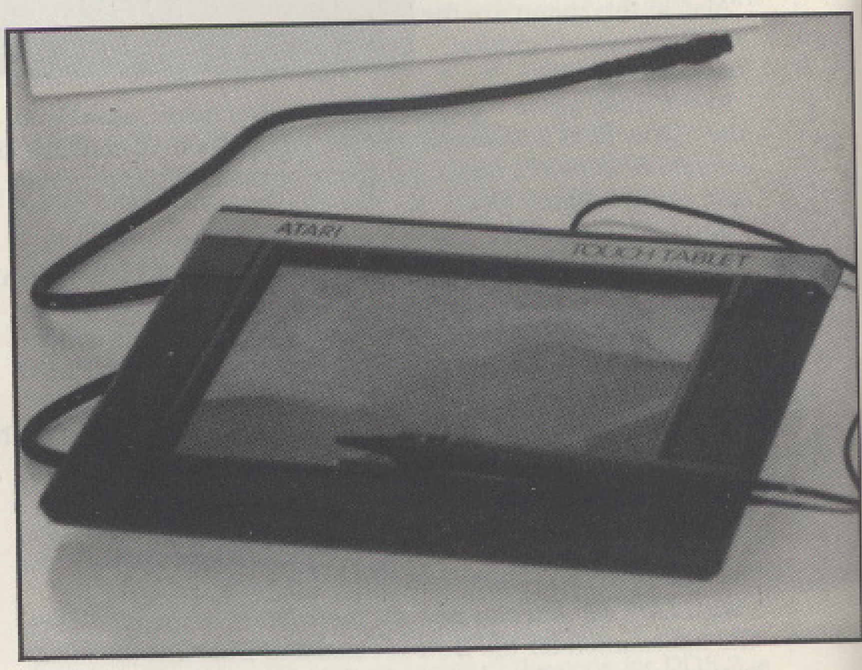
I tried out the four different colours then changed them at the colour menu. I erased the screen then selected Mirror. I was asked if I wanted a Horizontal mirror or a vertical or a diagonal or an 'all four way' one. I choose an all four way and drew - it was great! Then I filled my shape with the different colours and patterns. Designing had never been easier. I then took an A5 picture and decided to trace it. I checked with the manual and discovered that there is a sheet of clear plastic over the top of the Tablet. I removed the plastic and placed my picture on the tablet then I put the plastic back and it held it still so I could trace it without any bother.

NOT SO BIG ON PRINTING

I wanted a printout on my 1029. I searched the menu and tried everything. I even put the cursor on top of the Atari logo

TABLE OF TOUCH TABLET BUTTONS

Number returned by STICK(0)	Buttons
14	Pen
11	Left Button
7	Right Button
10	Pen and Left
6	Pen and Right
3	Left and Right
2	All Three



```
IM 1 REM ┌──────────────────────────┐
ZC 2 REM |      A GRAPHIX DEMO       |
OW 3 REM |  USING THE TOUCH TABLET   |
NR 4 REM |    NEW ATARI USER 1990    |
CZ 5 REM ├──────────────────────────┤
UE 6 REM |  BY                      |
BV 7 REM |       COLIN PAINE         |
IM 8 REM └──────────────────────────┘
NT 10 GRAPHICS 7:SETCOLOR 2,0,0:SETCOLOR
   1,0,14:POKE 752,1
RA 15 C=1
HB 20 X=PADDLE(0)*159/228
KA 30 Y=79-PADDLE(1)*79/228
WL 40 IF STICK(0)=14 THEN ? "Pressing Pen
    PLOT":PLOT X,Y
BO 45 IF STICK(0)=11 THEN ? "Pressing Lef
   t Button DRAW":DRAWTO X,Y
XP 50 IF STICK(0)=7 THEN ? "Pressing Righ
   t Button Change Colour":GOSUB 100
ZJ 55 IF STICK(0)=10 THEN ? "Left and Pen
    buttons ERASE":COLOR 0:PLOT X,Y
RW 60 GOTO 20
FO 100 C=C+1:IF C=4 THEN C=1
GJ 110 COLOR C:RETURN
```

```
IM 1 REM ┌──────────────────────────┐
PF 2 REM |       A SOUND DEMO        |
OW 3 REM |  USING THE TOUCH TABLET   |
NR 4 REM |    NEW ATARI USER 1990    |
CZ 5 REM ├──────────────────────────┤
UE 6 REM |  BY                      |
BV 7 REM |       COLIN PAINE         |
IM 8 REM └──────────────────────────┘
LY 10 GRAPHICS 0:SETCOLOR 2,0,0:SETCOLOR
   1,0,15:POKE 752,1
WY 15 ? "              SOUND DEMO":? :? :? "
      JUST MOVE THE STYLUS":? :? "
     ACROSS THE TABLET"
YK 17 ? :? :? "              FOR STRANGE SOUND"
EP 20 SOUND 0,228-PADDLE(0),10,10
GG 25 SOUND 1,228-PADDLE(1),10,10
RT 30 GOTO 20
```

and pressed the button - I got a strange surprise! Anyway I couldn't find a printout option. So, I turned to my trusty New Atari User/Page 6 magazines. As I flicked through them I came across just what I wanted in Issue 25, a 1029 Atari Artist print routine. I saved my picture to disk then started typing out the listing. Two and a half hours later I saved it and ran it. I loaded in my picture and with the touch of a button I got printouts in different shades of grey and in different sizes! Unfortunately other printer users will have to find another way because this program only works with 1029.

A short note to other printer users. If you are trying to make your own printer dump, watch out because Atari Artist doesn't save it in the usual 62 sector form.

PROGRAMMING? NO PROBS!

I am sure Atari Artist won't keep everyone happy for ever, it didn't me! So I turned to Basic programming. My manual had nothing on programming it nor did the several other books I have. I tried experimenting and found you can access the tablet from the PADDLE command. The Atari Touch Tablet has 228 resistance pads (spots that the stylus can touch like pixels) in both directions making it difficult to use Graphics mode 8. The X axis takes its readings from Paddle(0) and the Y axis from Paddle(1). The pen and two side buttons can be accessed with STICK(0). Please see the table for the buttons and their numbers. For a small graphics demo program turn to Listing 1.

The Tablet doesn't have to be used just for graphics it can be used for sound too - see Listing 2. I am sure you can find many more uses for it too. Just use some imagination then write a program on it.

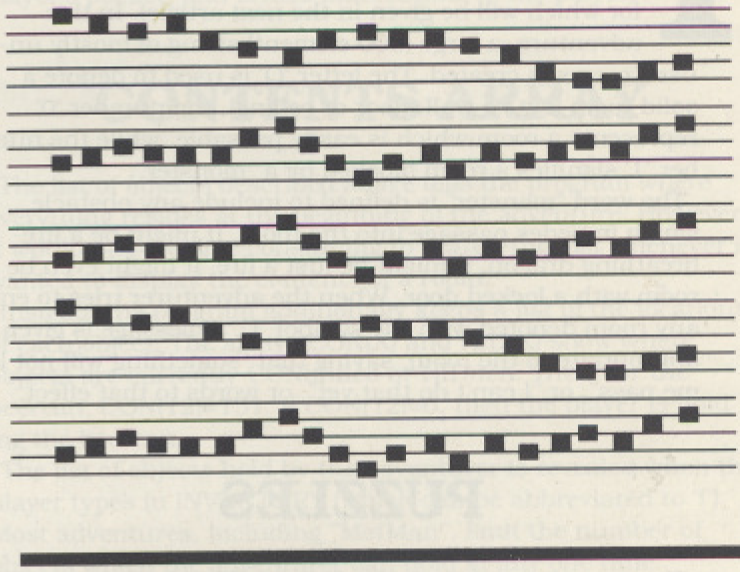
A CHALLENGE!

Colin's use of the Touch Tablet for making random sounds gave us the idea of using the Touch Tablet as a sort of musical instrument. Can anyone write a program to read music from the Touch Tablet? The idea would be to divide the Touch Tablet into five or six horizontal bands with each band containing the standard notes found on a music stave so that when the pen was pressed on the tablet the appropriate note would sound. The length of the note would be determined by how long the pen remained in contact and harmonies could, perhaps, be added by using the buttons on the tablet or on the pen.

Music could be created by producing a template to lay over the tablet containing blocks for each note as in the example shown. Readers could quite easily create templates of their favourite tunes and send them in for publication.

How about it? The program should be relatively easy to write given the information in the two sample programs with this article. Let's hear from you.

Sample template for Touch Tablet Music - needs to be A5 size



IS IT WORTH BUYING?

Is it worth buying? It all depends on what you want your Atari for. If you just want to play games then I shouldn't bother because as far as I know there are no commercial games for it. But if you are at the stage of 'What do I do now?' with your Atari or if you have an interest in graphics then I would certainly recommend it. No previous knowledge is needed to get it going.

I much prefer it to the light pen - for one thing it stops your arm aching! The only drawback is, if you rest you hand on it while you are drawing it will take reading from your hand not the stylus! I bought it for forty nine pounds but I'm sure if you shop around you can get it cheaper. As for software there isn't a lot but making your own programs is not difficult.

WRITING ADVENTURES

In the first article, I looked at the way the rooms of the dungeon were created and gave a few lines of illustrative code from my 'MetMan' adventure (the full listing for which will be given in the next article). In this adventure, a large (300 element) string of mostly unused rooms is created. The letter 'Q' is used to denote a solid room (e.g., a wall, floor or ceiling), the number '0' represents a room which is easily passable, while the number '1' signifies a room blocked by a "monster".

The word "monster" is defined to include any obstacle which impedes passage into the room. It might be a fire-breathing dragon, it might be just a fire, it might even be a room with a locked door. When the adventurer tries to enter any room denoted with the symbol '1', a message is given, appropriate to the room, saying that "something will not let me pass", or "I can't do that yet", or words to that effect.

PUZZLES

This introduces the puzzle element. The player has to commit some action which the program recognises as sufficient to overcome the "monster". When this happens, the '1' in the room string is replaced by a '0', indicating that free passage is now permitted.

For example, a room sealed by a locked door has a '1' in the room string. If the player produces the key, the "monster" - in this case the locked door - is overcome, and a '0' is placed in the room string.

Normally a "monster" will stay permanently vanquished once the puzzle is solved. However, some adventures (not "MetMan") cause the "monster" to reappear under certain circumstances, for example after another 20 turns of play.

GO COMMAND

The GO command can similarly be implemented. A player can say GO NORTH, which the program will interpret as NORTH. But GO has another, more complicated use. Suppose you are standing before a building. Visible exits are north and south. You try GO NORTH, but you land up in a field. GO SOUTH takes you to a path. So you try GO BUILDING - not listed as an exit - and at once you are in the building.

There are various ways of implementing the GO ROOM/-BUILDING command. The easiest is to assign the appropriate room (cell) a value different from Q,1 and 2 (using "MetMan" as the example), and make the program recognise that an attempt to GO to the room is equivalent to a legal move in the same direction. In the example I have just given, GO BUILDING would be interpreted as GO WEST (or whatever direction the building-cell lay in, separate from the visible exits of north and south).

Other values can be used in the string array for different purposes. For example, characters 'a to z' (lower case) might call up 26 different types of HELP text. However, HELP is implemented differently in "MetMan", see below.

THE RESTORE COMMAND

The command RESTORE in Atari Basic is one of OSS's great boons to adventure writers (OSS wrote Atari Basic), because it is programmable. The RESTORE command tells the program which line of DATA to read in next, so that RESTORE 1000 means read in DATA from line 1000. Much more important is the line RESTORE Q, which restores data from line Q, the value of Q having been defined by the program elsewhere.

Suppose the player is standing in room number 37. Then the simple Basic lines:

```
Q = 37 : RESTORE 1000 + Q
```

will read the data specific for room 37 from line 1037. If we record a room description at line 1037, then the additional lines:

```
READ DESCRIPT$ : PRINT DESCRIPT$
```

will give us the whole room description.

But we can do even better than that! At line 1037, we can put not only the descriptive data for room 37, but also other data such as an index to the HELP text which is similarly referenced with a RESTORE command. Consider this sequence:

```
Q = 37 : RESTORE 1000 + Q
READ DESCRIPT$, INDEX
PRINT DESCRIPT$
RESTORE 2000 + INDEX
READ HELP$
PRINT HELP$
1037 DATA This is a room, 10
2010 DATA This is help text for room 37
```

Implementation of this sequence gives all the room informa-

ES

Part 2 of our series on programming your own adventures takes us on to the commands needed to start to make things work

by John White

tion, and provides access to the HELP text.

Why use INDEX=10, instead of INDEX=37 for the help text? Usually you need much less help text than is required for every room, so this method has the potential to use space and code more efficiently (machine code programmers used to direct indexing will appreciate the benefit better).

Actually, the RESTORE command is very similar to indirect indexing in machine code, when used in this way.

ROOM ATTRIBUTES

I have shown how the RESTORE command can be used to index room descriptions and other text for a room. It can also be used to index the attributes of the items in a room. A long list of DATA statements will contain the following attributes, or information:

1. *The movable item*
2. *Its state*
3. *Its location*
4. *Its hide-index, whether it hides another object.*

Let us take an example from "MetMan":

```
3212 DATA BEERCAN,1,151,0
```

When data from line 3212 is read in its entirety, the program knows that there is a beercan currently in room 151. Its state (1) means that it can be moved (other values here might signify that it could not be moved, that it was too heavy to move, that it won't let me pass or has other special function). The 'hide-index' is in this example zero, meaning that the beercan does not conceal another object.

If the 'hide-index' were non-zero, then its value would point to another object in the same list of DATA. Since the object data items begin with line 3200, a value here of 12 would mean that the beercan was hiding itself, obviously an absurd concept. Suppose that the 'hide-index' had a value of 20. Then the second object in DATA line 3220 will come to light after the BEERCAN is EXAMined. Similarly, the second object could point to a third, and so on.

Until the hidden items are exposed, they are assumed to reside in room number 1, a solid wall which the player can never enter. Room number zero (0) is assumed to represent the player's pocket, and is also inaccessible to the player.

CONTENTS ARRAY

The list of objects described above tells the program where everything resides at the beginning of the adventure. However, it would be very time consuming to search this list whenever it wanted to display the contents of a room.

Instead, the program additionally keeps a list of the locations of each object. The arrays CON(X) and HID(X) show where objects are currently CONtained or HIDden. Thus, for the beercan, CON(12)=151. If CON(12)=0, then the player is holding the beercan.

The list of objects held by the adventurer is revealed when the player types in INVENTORY (which can be abbreviated to 'I'). Most adventures, including "MetMan", limit the number of objects which the adventurer can hold at any one time.

FLEXIBILITY

This system of setting up an adventure is amenable to easy modification. Lists of DATA are set up to display the attributes for each room, and for the room contents; each DATA list is ended by '-1' as an end-of-data marker, so that program loops keep searching the lists until they find the '-1' marker.

It is therefore very easy to create a new adventure, essentially just by altering the DATA statements (but see the next section).

ROOM SPECIFICS

In any adventure, there will always be some actions specific to certain rooms - killing "monsters" is an obvious example.

Again, the code for this can be organised according to the room number, owing to OSS's considerate programmable GOTO and GOSUB commands, as in:

```
Q = 15000 + room*10 : GOSUB Q
```

Use of the expression '15000 + room*10' ensures that, from line 15000 onwards, there are up to ten lines of BASIC code

available to deal with the specific problems of every room.

Usually the line 15000 + room*10 will simply say RETURN - no action is required. But room-specific code can be incorporated where required, and this will be the hardest part to rearrange when a new adventure is written.

THE PARSER

The parser is the input routine which handles the player's intended actions. Normally it will deal with two key words, a verb and a noun as in OPEN DOOR.

There has been an increasing tendency in modern adventures to market sophisticated parsers as sales gimmicks. I use the word "gimmick" advisedly, since no serious adventurer will usually enter more than two-word commands (if you doubt this, look at the Tipster's page).

The feature of a sophisticated parser is that it can handle a lengthy sentence, such as:

OPEN THE DOOR THEN KILL THE DRAGON AND TAKE THE TREASURE.

This adds up to eleven words. An experienced adventurer would say:

OPEN DOOR
KILL DRAGON
TAKE TREASURE

These are the key words which the more sophisticated parser would pick out of the earlier long sentence.

Does it matter? Well, the second method involves typing only six words (instead of eleven). Suppose the door is locked? Then the second method wastes two words of typing, while the first wastes eleven! Clearly, use of the second method is more efficient for the player and saves the programmer the trouble of a great deal of complex coding (see below). "MetMan", like many adventure programs, uses only a two-word input parser.

It is convenient for the player that a parser should recognise short versions of the most common actions. Thus GO NORTH should be replaceable with NORTH or even 'N'. Again for convenience, the parser should accept the first four letters of any noun or verb to take action. Four letters are just enough to convey uniqueness on virtually all words used in an adventure. Thus it should be possible to abbreviate ENTER CASTLE to ENTE CAST.

IT

IT is another addition of dubious value to some modern parsers. For example:

TAKE TREAsure
EXAMine IT

This is quite easily coded. Store the last noun used, and replace all occurrences of 'IT' with the last noun stored.

However, it is possible to imagine ambiguities when using the word IT, especially in a long sentence, so that it is probably best avoided. Again, no serious adventurer would use the pronoun IT. The IT routine is not incorporated into "MetMan".

CODING THE PARSER

There are a number of ways of writing the code for the parser. The most important requirement is to separate the key words from the text string which the player has entered. The key words will all be separated by spaces in the text string, so the program has only to look for spaces and separate the words parted by them, ignoring the number of spaces.

This is achieved by examining each character of the input string, and saving those which are not spaces as two strings, VERB$ and NOUN$ (the verb will always come first).

Such a process can be quite fast in Basic if the player is forced to use a simple two word command sequence separated with a single space. Then we can write :

```
100 SPACE = 0 : FOR K = 1 TO LEN(INPUT$)
110 IF INPUT$(K,K) = " " THEN VERB$ =
INPUT$ (1,K-1) : NOUN$ = INPUT$ (K+1, LEN
(INPUT$)) : SPACE=1 : POP: GOTO 130
120 NEXT K
130 RETURN
```

Notice the POP command, necessary since the program is jumping out of a loop. The SPACE flag tells the program whether a space had been detected in the input string.

This simple program is not sufficient to deal with more complicated cases where, for example, the player puts two spaces between the verb and the noun (the above routine would give an inaccurate result for NOUN$). Thus a better parser would examine every character of the input string before allocating the characters to VERB$ and NOUN$. The procedure can be quite slow in Atari Basic, and "MetMan" uses a machine code routine to separate the verb and the noun.

Playing time and program space are both shortened if all verbs and nouns are truncated to the first four letters, as mentioned previously. Two lines of code suffice first to pad out short strings to four letters, and then to truncate longer strings to four letters:

```
VERB$(LEN(VERB$)+1) = " " : VERB$ =
VERB$(1,4)
NOUN$(LEN(NOUN$)+1) = " " : NOUN$ =
NOUN$(1,4)
```

The parser has now managed to separate the player's command into a verb and a noun, both of four letters (including trailing spaces). These are now matched with a Verblist and with a Nounlist to find the appropriate 'Action Number' and 'Object Number'.

VERB AND NOUN LISTS

The next stage in the parser is to match the verb and noun against the legal lists for both. These will be turned into numbers which provide a more convenient representation for the action and the object.

At initialisation, the adventure program will compile a string of verbs with associated "Action Numbers", and a separate string of nouns with associated "Object Numbers". For example, the list of verbs might start off as:

PUT 1GET 2TAKE2EXAM3....

Note that each verb comprises four letters, padded out where necessary with spaces. The Action Numbers provide indices to a list of actions which the program will take. In this example, GET and TAKE are deemed to have the same meaning with an Action Number of 2.

A similar list provides an Object Number for the noun. If no match is obtained with the verb, the Action Number is zero; if no match is obtained with the noun, the Object Number is zero.

The 'Action Number' and 'Object Number' are subsequently used as indices to find the appropriate action for the described object. For example, TAKE BOTTLE might give an Action Number of 2 and an Object Number of 5. The program then

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executes the lines:

```
GOSUB ACTION + (Action Number) * 10
```

where the action for taking any object is described in blocks of up to ten lines. The Object Number serves as an index to alter the contents of the arrays CON and HID, described previously.

If the Action Number or Object Number remains zero (no match found) after the lists have been searched, then an appropriate message should be given:

I don't know how to VERB$ something.
I don't know what a NOUN$ is.

How can the Verblist and Nounlist be searched? Turbo Basic contains the INSTR command, which matches the occurrence of any small string within a larger string. So we could write:

```
X = INSTR(VERBLIST$,VERB$)
AN = VERBLIST$(X+LEN(VERB$),X+LEN
(VERB$))
```

(and similarly for the Object Number from the Nounlist).

This provides a fast way of finding the Action Number and Object Number from Turbo Basic. However, Atari Basic lacks the INSTR command, and to mimic INSTR with Basic commands makes for a very slow parser.

The second alternative is to bludgeon the problem with the high speed of machine code. This is the approach I have used with "MetMan", with a routine which mimics the INSTR command, and which is much the most flexible solution for general use.

The third alternative is quite well-suited to Basic, but does require a little thought. The Verblist and Nounlist are organised alphabetically, and stored as DATA statements (instead of as one whole string) with one line of Basic DATA statements assigned to every letter of the alphabet. Knowing the first letter of the verb and of the noun, the program searches only those DATA statements which have the same initial letter.

For example, consider the statement EAT BUN. 'E' is the fifth letter of the alphabet, 'B' is the second. If the Verblist starts at line 10000, then all verbs starting with letter 'E' will be stored as DATA at line 10005. Thus the program has only to search line 10005 for a match. Similarly, if the Nounlist starts at line 11000, the program has only to search line 11002 for a match with BUN.

This method was illustrated in Peter Dean's adventure "Klepht's Castle", printed in New Atari User, Issue 34, July 1988.

COMPLEX PARSERS

Sophisticated parsers, for those still interested in them, require more planning. Each of the many words of the input string is matched with the Verblist and Nounlist in that order. Any words not matched at all are simply ignored. At the end of this process, the string should have been broken into a series of commands:

VERB1 NOUN1 VERB2 NOUN2 VERB3 NOUN3 ....

Each sequence of VERB-NOUN will be implemented separately. If a noun precedes its verb (counting in pairs from the beginning), or if a verb/noun has no matching noun/verb, then an error should be given at that point, after all preceding verb-noun combinations have been executed.

For example, the input command:

OPEN THE DOOR THEN KILL THE DRAGON AND TAKE THE TREWSURE (sic)

will be evaluated as :

OPEN - DOOR (executed)
KILL - DRAGON (executed)
TAKE - ??? (no match in noun list, last line not executed).

Note that if TREWSURE had been spelled TREASWRE, then the sentence would have been executed in full, since only the first four letters are required of a noun (here TREASURE).

MESSAGES

Once again, a general method should be used to create messages. Programmers in machine code will be familiar with the technique. When a message is required to be printed, the appropriate "message number" (MESSNO) is used as an index to read the DATA. The Basic RESTORE command sets the line of DATA to be read, and a general routine prints the message.

For example:

```
(MESSAGELIST = 25000: MESSNO =10)
RESTORE MESSAGELIST + MESSNO
READ MESSAGE$: PRINT MESSAGE$
25010 DATA This is a message.
```

THE MAIN ROUTINE

The main routine of "MetMan", which loops continually until the adventure is completed or the player runs out of turns, looks like this:

```
GOSUB INTRODUCTION
GOSUB SETUP MACHINE-CODE ROUTINES
GOSUB INITIALISATION
100 GOSUB ROOM-SPECIFIC DATA
GOSUB ROOM DESCRIPTION
GOSUB ROOM CONTENTS
GOSUB SHOW EXITS FROM ROOM
GOSUB PARSER
GOSUB MOVE PLAYER
IF too-many-turns THEN EXIT
ELSE GOTO 100
```

(Note: the above is a stylised version of the actual code. Do not attempt to type it into your computer.)

THE POP COMMAND

Whenever a subroutine is entered, or a FOR-NEXT loop is executed, a Basic software stack is loaded with the address to which the program must return. If the programmer jumps out of a subroutine, or out of a loop, then the stack will not be cleared of its last entry.

This can cause a number of problems. Firstly, the stack may overflow with uncleared entries, causing it to reset with unpredictable results. Secondly, subsequent RETURN or NEXT commands encountered may cause the wrong re-entry point for the program to be taken from the Basic stack.

The way to clear an unused stack entry in Basic is with the POP command (see example given above). I have mentioned this since many programs listed in New Atari User do not appear to make use of this technique.

Incidentally, it is very bad practice to jump out of a subroutine even with a POP command, since you have to be very careful not to GOTO the middle of another subroutine with potentially disastrous results. Nevertheless, use of the QUIT option from "MetMan" involves a jump out of a subroutine with a double POP command in order to illustrate the technique.

SAVE/LOAD ROUTINES

A useful feature of any adventure is the ability to SAVE a part-completed game - usually before attempting a highly hazardous attempt to waken a sleeping dragon! - and then to LOAD (or RESTORE) the game previously saved.

In principle, part-completed adventures can be saved to a cassette, a floppy disk or to a RAM-disk (130XE models only). Cassette saves are slow, but are naturally indispensable to those who do not have disk drives. Saves to the RAMdisk are, in my opinion, undesirable since a SAVE command is a deliberate operation for which speed is not essential. Therefore the RAMdisk loses its only advantage over the normal disk drive, while retaining the disadvantage that an accident, such as an interruption to the power supply, will result in complete loss of the game which had been saved.

It is only necessary to save current data for the adventure in progress to a disk. It is certainly not necessary to save the adventure itself! "MetMan" includes the save and load facility.

IN CONCLUSION

This article concludes the basic (in both senses) programming techniques needed for an adventure. The article in the next issue of New Atari User will give the full Basic code for "MetMan", and a fourth article will describe advanced programming techniques.

PERSONAL AUTOBOOT

Peter Kirton shows you how to create your own boot-up messages and autorun Basic programs

Do you ever have occasion to require a BASIC program to load and run automatically on boot-up? Would you like the READY prompt to be replaced by your own message while the program is loading? Would you like your disks to display some personal message while booting? This program will give your disks a little more flair - for a more professional appearance.

The program is essentially in two parts. The first part creates a message to be displayed while the disk is booting. When the computer boots from a disk, the data in sectors 1-3 is read into memory and the acted on to activate the boot process. However, the information on sector 3 is not used, so this sector can be re-written for some user application, (such as our message). Two pointers in sector 1 are changed to invoke the application. This is economical programming at its best, as the application effectively uses no disk space!

The second part of the program creates an AUTORUN.SYS file which will load and automatically run a BASIC program. An optional message is displayed while the program is loading.

TYPING IT IN

Type in listing 1 and save it as AUTOLOAD.BAS. Check the listing with TYPO 3, as errors in entering the data statements will have unpredictable consequences.

USING AUTOLOAD

Run AUTOLOAD.BAS and you will see a brief explanation of what the program does, followed by a menu of two choices. Choose between (1) the boot-up message or (2) that message plus an AUTOBOOT BASIC program with a further (optional) message.

After selecting from this menu, you will be prompted to insert the DOS 2 or 2.5 formatted disk, containing DOS.SYS, on which you intend to place your message. Note that the new AUTORUN.SYS will replace an AUTORUN.SYS which may already be on your disk. Press START when you have placed your disk in the drive.

If you had chosen (1) from the menu, the screen will clear and you will be prompted to enter your text. Up to 36 characters are allowed and a template is provided for typing, as a guide to the length of your text. Typing is in lower case, so press SHIFT for upper case as required. You can cause a blank screen on boot-up by simply pressing RETURN without typing any text.

You will then be asked for the background screen colour. Valid entries are 0-15, and numbers outside this range are not accepted. Then enter the background luminance; here 0-4 are the valid entries. You can experiment with different combinations of these two values to arrive at the screen colour which you find the most pleasing.

After entering your text and colour choices, you will be kept informed while the computer goes about adding changes to pointers in sector 1 and building a new sector 3. If you had entered (1) at the earlier menu, the program will end at this point. When booting from this disk, your message will be displayed, centred on the screen, in your chosen screen colour.

If you had chosen (2) from the earlier menu, after the boot message set-up has completed, the screen will clear again. You will be prompted for the name of the BASIC program you wish to autoboot. Enter the full file name plus extender, but don't add the "D:" prefix (the program will remove it if you do).

You will then be asked to input the text you wish to display while your program loads. Again, you are allowed up to 36 characters and a template is provided as a guide. The text will be centred when it is displayed. Simply press RETURN if no text is required. The computer will keep you informed as the AUTORUN.SYS file is created and written to disk.

All you have to do now is to ensure that your BASIC program is on the disk to which you have just written your displays. Re-boot to see the effect. Notice that the computer no longer says "READY" when it obviously can't be due to program loading in progress.

Acknowledgements:

The routine for autobooting a BASIC program is based on a program in ANALOG magazine (#30, May 1985), written by Chet Walters. This routine prints "RUN D:PROGNAME.EXT" (where "PROGNAME.EXT" is replaced by your filename) on the screen, then puts the Atari into forced read mode to execute the command. These commands are not seen as the text luminance is set to the background luminance. The original program then replaced the "RUN D:" with "LOADING" and reset the text luminance so that "LOADING PROGNAME.EXT" could be seen. My modifications allow a neater (centred) and more flexible text display.

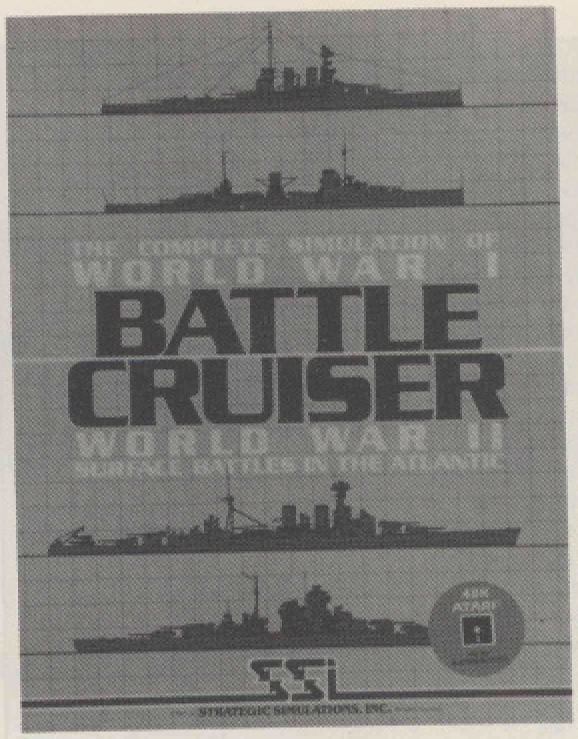
PERSONAL AUTOBOOT

```
EX 1 REM ###############################
RA 2 REM #    DESCRIPTIVE AUTOBOOT    #
GE 3 REM #            by              #
WW 4 REM #        Peter Kirton        #
HC 5 REM # -------------------------- #
WC 6 REM # NEW ATARI USER - APRIL '91 #
FD 7 REM ###############################
NN 8 REM
TO 10 DIM BUFFER$(128),JSRDH$(5),ANS$(1),MESSAGE$(36)
YE 11 DIM PART1$(50),PART2$(21),PART3$(78),FN$(15),B$(15),AUTORUN$(150)
WP 15 BUFFER$(1)=" ":BUFFER$(128)=" ":BUFFER$(2)=BUFFER$
ME 20 GOSUB 1000
NR 25 POKE 752,1:RESTORE 40
BF 30 FOR X=1 TO 5:READ B:JSRDH$(X,X)=CHR$(B):NEXT X
SQ 40 DATA 104,32,83,228,96
XF 45 GOSUB 1250:GOSUB 1200
QQ 47 REM Modify sectors 1-3 for BOOT message
MZ 49 ? "K":? :? "Changing pointers in Sector #1."
IA 50 ADDR=ADR(BUFFER$):BUFHI=INT(ADDR/256):BUFLO=ADDR-(BUFHI*256)
YF 60 DCB=768:POKE DCB+1,1:POKE DCB+2,82:POKE DCB+4,BUFLO:POKE DCB+5,BUFHI
QW 70 POKE DCB+2,82:POKE DCB+10,1:POKE DCB+11,0:GOSUB 150
QX 75 BUFFER$(8,8)=CHR$(0):BUFFER$(9,9)=CHR$(8):POKE DCB+2,87
TD 80 ? :? "Writing the new Sector #1.":GOSUB 150
WW 85 BUFFER$(1)=" ":BUFFER$(128)=" ":BUFFER$(2)=BUFFER$
BD 90 POKE DCB+10,3:POKE DCB+11,0
BN 95 ? :? "Creating a new Sector #3."
LN 100 RESTORE 1400:FOR I=1 TO 70:READ A:BUFFER$(I)=CHR$(A):NEXT I
RQ 105 BUFFER$(LEN(BUFFER$)+1)=MESSAGE$:BUFFER$(LEN(BUFFER$)+1)=CHR$(155)
VA 110 BUFFER$(24,24)=CHR$(LEN(MESSAGE$))
UO 112 P=40-LEN(MESSAGE$):P=INT(P/2):BUFFER$(38,38)=CHR$(P)
YE 115 BUFFER$(29,29)=CHR$(COLOUR)
AK 120 ? :? "Writing the new Sector #3."
FQ 140 GOSUB 150:GOTO 170
BU 150 D=USR(ADR(JSRDH$))
ZW 155 RETURN
JT 170 POKE 752,1
TE 180 ? "K":? :? :? :? "          Modification complete"
LL 182 ? :? :? "          Disk will boot with "
KM 183 POSITION 19-(INT(LEN(MESSAGE$)/2)),9:? CHR$(34);MESSAGE$;CHR$(34)
CW 184 ? :? "             displayed"
YT 185 ? :? :POKE 752,0
LU 190 IF CHOICE=1 THEN END
GQ 195 POKE 752,1:POKE 764,255
ZS 196 POSITION 2,23:? "Press any key to continue...";
QI 197 IF PEEK(764)=255 THEN 197
XX 198 POKE 764,255
RT 200 GOSUB 1300
LE 279 REM Create AUTORUN.SYS
EA 280 ? :? :? "Generating AUTORUN.SYS file..."
XD 300 RESTORE 1500
IA 305 FOR I=1 TO 50:READ A:PART1$(I,I)=CHR$(A):NEXT I
DQ 310 PART1$(10,10)=CHR$(32+LUM)
LV 320 PART2$(1)=CHR$(0):PART2$(21)=CHR$(0):PART2$(2)=PART2$
ZH 325 PART2$(1,1)=CHR$(36):PART2$(2,2)=CHR$(26)
ES 330 FOR I=1 TO LEN(FN$):PART2$(2+I,2+I)=CHR$(ASC(FN$(I,I))-32):NEXT I
RA 335 FOR I=1 TO 78:READ A:PART3$(I,I)=CHR$(A):NEXT I
RV 340 FOR I=1 TO LEN(MESSAGE$)
VU 345 ASCI=ASC(MESSAGE$(I,I))
CC 350 PART3$(32+I,32+I)=CHR$(ASCI-(32*((ASCI>31) AND (ASCI<97)))+(64*(ASCI<32)))
GS 355 NEXT I
FI 360 PART3$(11,11)=CHR$(COLUMN)
CW 400 AUTORUN$=PART1$:AUTORUN$(LEN(AUTORUN$)+1)=PART2$:AUTORUN$(LEN(AUTORUN$)+1)=PART3$
UM 405 ? :? "Writing the AUTORUN.SYS file."
OC 410 CLOSE #1:OPEN #1,8,0,"D:AUTORUN.SYS"
EW 420 FOR I=1 TO LEN(AUTORUN$)
JC 430 P=ASC(AUTORUN$(I,I))
OL 440 PUT #1,P
GE 450 NEXT I
LM 460 CLOSE #1
VI 500 ? "K":? :? "  Your disk now contains an"
EI 510 ? "AUTORUN.SYS file which will boot"
EU 520 ? FN$;" and will display"
VF 525 IF MESSAGE$=" " THEN MESSAGE$="no message":L=15
ZE 530 POSITION L,6:? MESSAGE$
DZ 540 ? :? "while ";FN$;" is loading."
OE 550 END
GL 999 REM Program explanation
VS 1000 ? "K":? :? "  This program will allow you to"
VE 1010 ? "display a message such as a disk"
GT 1020 ? "title while the disk is booting. It"
KT 1030 ? "gives you the opportunity to"
OH 1040 ? "personalise your disks."
BB 1050 ? :? "  An extra option allows you to"
VG 1060 ? "AUTOBOOT a BASIC program, and to have"
JL 1070 ? "a second message, for example, "
UZ 1080 ? "'Loading Program Name....', displayed"
OE 1090 ? "while the program is loading."
HA 1100 ? :? :? "  Your choices are:-"
EC 1110 ? :? "     1.  Message on boot-up only"
YO 1120 ? "     2.  Autoboot BASIC program"
DS 1130 POSITION 10,21:? "Enter choice..";:INPUT CHOICE
ZK 1140 IF CHOICE<0 OR CHOICE>2 THEN ? CHR$(253):GOTO 1130
AQ 1150 RETURN
HN 1199 REM BOOT message input
HA 1200 ? "K":POSITION 12,1:? "1.  BOOT DISPLAY"
ID 1201 POSITION 2,7:? "Enter your message (36 chars max)":POKE 702,0
XR 1202 POSITION 2,10:? "____________________________________":REM 36 underlines
ZZ 1205 POSITION 1,10:INPUT MESSAGE$:POKE 702,64
LO 1210 FOR I=1 TO LEN(MESSAGE$):IF MESSAGE$(I,I)="_" THEN POP :MESSAGE$=MESSAGE$(1,I-1):GOTO 1220
```

continued ☛

PERSONAL
AUTOBOOT

```
FQ 1215 NEXT I
BK 1220 POSITION 1,13:? "Enter screen col
   our [0 to 15]":INPUT COLOUR
VP 1225 IF COLOUR<0 OR COLOUR>15 THEN ? C
   HR$(253):GOTO 1220
DN 1230 POSITION 1,15:? "Enter screen lum
   inance [0 to 4]":INPUT LUM
AK 1235 IF LUM<0 OR LUM>4 THEN ? CHR$(253
   ):GOTO 1230
ZG 1240 COLOUR=COLOUR*16+LUM
BJ 1245 RETURN
BH 1249 REM Insert your program disk
WP 1250 POKE 752,1:? "K":? :? :? :? "  IN
   SERT FORMATTED DISK IN DRIVE 1"
EB 1260 ? :? "      Press START when ready
   ..."
DK 1265 IF PEEK(53279)<>6 THEN 1265
UV 1270 POKE 752,0:RETURN
IZ 1299 REM AUTOBOOT program message inpu
   t
RN 1300 ? "K":POSITION 4,1:? "2.   AUTOBOO
   T program selection"
WI 1305 POSITION 10,2:? "and display mess
   age."
FT 1310 ? :? :? "Enter name of BASIC prog
   ram to"
EO 1315 ? "AUTOBOOT.... ";:POKE 752,0:INP
   UT FN$
LH 1320 FOR I=1 TO 3:IF FN$(I,I)=":" THEN
    FN$=FN$(I+1,LEN(FN$)):POP :NEXT I
RH 1325 B$="D:":B$(3)=FN$
VC 1330 ? :? :? "Enter message to display
    while"
FV 1332 ? "loading ";FN$:? :? ">RETURN< i
   f no message"
MV 1335 POKE 702,0
LE 1340 ? :? "_______________________
   ____________":REM 36 underlines
DH 1345 POSITION 1,14:INPUT MESSAGE$:POKE
    702,64
XC 1347 IF MESSAGE$(1,1)="_" THEN MESSAGE
   $=" ":GOTO 1360
ED 1350 FOR I=1 TO LEN(MESSAGE$):IF MESSA
   GE$(I,I)="_" THEN POP :MESSAGE$=MESSAG
   E$(1,I-1):GOTO 1360
GE 1355 NEXT I
AR 1360 L=LEN(MESSAGE$):L=INT((40-L)/2)
XY 1365 COLUMN=120+L
BA 1370 RETURN
BN 1399 REM BOOT sector data
XS 1400 DATA 162,0,169,11,157,66,3,169,70
   ,157,68,3,169,8,157,69,3,169,0
XW 1410 DATA 157,73,3,169,31,157,72,3,169
   ,0,141,198,2,169,10,133,84
LH 1420 DATA 169,5,133,85,169,1,141,240,2
   ,32,86,228,169,0,133,84,169,0,141,240,
   2,169,20
TO 1430 DATA 141,7,7,169,7,141,8,7,76,20,
   7
FP 1499 REM AUTORUN.SYS data
KT 1500 DATA 255,255,0,6,136,6,160,158,16
   2,32,142,197,2,142,23,208,142
JE 1510 DATA 240,2,189,28,6,145,88,136,20
   2,16,247,169,13,141,74,3,96
RW 1520 DATA 56,29,53,51,50,8,17,22,16,17
   ,9,26,50,53,46,2
VM 1530 DATA 104,141,65,0,168,170,145,88,
   200,192,129,144,4,189
YL 1540 DATA 97,6,232,192,158,208,241,169
   ,12,141,74,3,169,10,141,197,2,96
XM 1550 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,
   0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
IU 1560 DATA 0,0,0,0,0,0,0,0,0,226,2,227,
   2,0,6
```

Michael Ingham tries his first sea battle and discovers it is not as easy as it seems

The complete simulation of World War I/World War II surface battles in the Atlantic is the claim on the cover of Battlecruiser, the companion to Warship which deals with WWII surface battles in the Pacific. Neither includes submarines or aircraft which does put a limit on the degree of historical accuracy in WWII when few naval encounters were not influenced by aircraft, land-based or carrier-borne.

Here I must confess that my wargaming experience, tabletop, boardgame and computer, has been entirely on dry land except for Silent Service, so I waded through the 32 page manual and was rather puzzled. I had noticed that the player options include the computer playing both sides, so I loaded the WWII disk, picked one of the scenarios and set a long delay length as previous experience of SSI games had shown that otherwise text messages flash by too quickly in an unfamiliar game. Then I set the computer to play itself, sat back to watch - and ended up completely baffled.

FIRST ORDERS

What I saw was something like this. At first, nothing much seemed to be going on; the cursor would periodically run along a line of rather blobby "ships", while a text message "ORDERS ....(O)" appeared at the bottom of the map. Eventually, another message "Enemy ships in sight" and then things started to happen; the cursor jumped about all over the place sometimes on a white blob, sorry ship, sometimes on a blue one. Meanwhile, messages similar to the following, quoted

BATTLECRUISER

from the manual, would appear:

BB under fire from 16/45 guns
Accuracy:1/38 Pen 20 2
*Belt hit**
Primary turret hit

This is interpreted as "the ship under the cursor is a battleship under fire from a turret of 16/45 guns, each shell has a 1 in 38 chance of a hit. the shells have a horizontal penetration capability of 20 and a vertical one of 2. The ship firing has secured two hits, the first penetrating the belt armour indicated by the *, while the second bounced off the armour of a main turret.

This sort of thing continued for quite a while with varied messages including torpedo attacks and a couple of "CL sinks"; then GAME OVER and a score sheet of losses and damage, and finally a points total for each side.

CALL THE EXPERTS!

It took a chat with an enthusiast of naval tabletop games plus the invaluable help of "The Electronic Battlefield", in which one of the best chapters works through the early stages of one of the WW I scenarios, before I appreciated what Battlecruiser really can do - and what the snags really are.

First the good points, the package does enable you to construct a very wide variety of simulations of the kind played on a tabletop with model ships - without the need of a real armada of models (expensive, and all that painting!), without the paraphernalia of rulers, dividers, dice,etc.,- and without the need for two other people of like interest, one opponent and one umpire, who have the same evening free.

The battle area can be open sea or can have coastal strips and/or islands. Different kinds of engagement are possible: Axis or Allied Transport, a convoy action in which the aim of one side is to get their merchant ships safely off the appropriate edge of the map: Axis or Allied Bombardment in which one side scores points by getting combat ships off the correct map edge and Battleline where the points come from sinking or damaging opposing ships. Note that in WWI the German Navy is called Axis and the Royal Navy Allied; in WWII German or Italian ships are available to one side and British or French ships to the other.

Either a computer selected fleet can be used or you can pick your own of up to twenty ships. It is not a limitless choice though, every ship "costs" a certain number of selection points of which you have a limited budget set by the type of game and the handicap level chosen; obviously, a powerful battleship "costs" many more points than a destroyer. The date, which you can set, also limits choice as ships are not available before they came into service historically. Ships can be modified and renamed, so that if you have, for example, Janes Fighting Ships of World War II to hand, your fleet can be highly accurate.

When the fleets have been deployed, orders can be given to individual ships or ships can be grouped in divisions and orders given to a whole division. The computer then takes over the tedious part of tabletop battles doing the calculations of rate of movement, rates of turn when a change of course is ordered, and the even lengthier process of what happens when a salvo is fired, which normally needs much dice throwing and consultation of tables. The battle can be paused every two minutes of game time to allow examination of the condition of your ships and to issue fresh orders if required.

SNAGS?

Looks fine, so what are the snags? The first minor one is that it is assumed that the player(s) have some idea of how different kinds of warship were, or should have been, handled i.e. where do you put battleships, cruisers,etc. in relation to one another. A couple of pages in the manual on naval tactics would not have gone amiss.

The second and major snag is what caused my initial mystification and comes from the relationship of the gun ranges involved to the size of the screen display. The battle area is a 60 x 60 grid, each square being 1000 yards across; the screen display is a 20 x 10 section of the grid. Battleships carried guns with ranges of 40,000 yds. and though engagement at extreme range was uncommon because it was inaccurate, opening fire at ranges of 20,000 - 15,000 yards did happen in fact and does happen in the simulation. This means that the ship firing at one of yours can be two screens away. Add to this the fact that a large battleline scenario can end up spread over different parts of the map, it will be seen that trying to make out what is going on through the small screen window can be a bit difficult. One possibility is to make a 60 x 60 board on a piece of card and use counters, card cut-outs or even very small ship models to mark positions. The basic simulation is, I think, good enough to warrant the trouble if you have any interest in naval history in the world wars.

As a footnote the tabletop enthusiast mentioned above was sufficiently impressed that he bought a computer just to have Battlecruiser and Warship available.

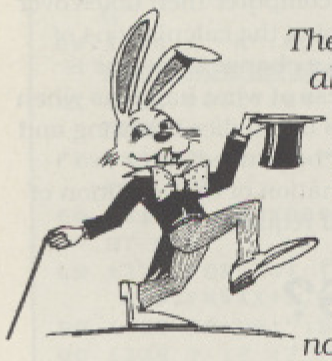
BATTLECRUISER, along with several other wargames, is available from Miles Better Software who kindly supplied the review copy.

BATTLECRUISER
Publisher: SSI
Price: £16.95
Availaible from Miles Better Software

THE TIPSTER



EASTER BONANZA



The Easter bunny will be here in about a week bearing stonking (where have I heard that phrase before?) great quantities of lovely chocolate and making people feel bloated and, in many young (and not so young) cases, sick before noon.

Well I can't promise that I'll actually wear a fluffy white bunny costume while writing this issue but what I do promise is that The Living Daylights tips that were mentioned last issue will appear this time.(honest!) Getting on with the serious stuff we have a good mix of tips which include some for a golden oldie such as Spy Hunter and the solution of Stranded. So lets dive in and see what this six foot bunny's brought you.

AUSSIE MEDIATOR

From 12,000 miles away comes the answer to a question set way back in November 1987. Chris Day of Isaacs, Australia replies to this question by giving the solution to stage three of Mediator. After you have the hammer bang on the xylophone until the aliens disintegrate. If the bird comes to steal your hammer then bang on the highest note and the bird will fly back.

MAD JAX and BOUNTY BOB

Robert Barter of Wimborne in Dorset (have you ever met Colin Hunt?) brings a brace of tips for Mad Jax and Bounty Bob Strikes Back. If when you get near to NEARING CITY in Mad Jax push up immediately on the joystick and your car will go straight through the wall and onto the next stage. For Bounty Bob'ers if you, immediately after picking up the flower pot on level 1 immediately press 1 and START both together you will warp to level 4. On level 5 immediately after picking up the coffee pot hold down 8 and START and you will warp to level 8.

ENGLAND ... ENGLAND .. JAMES BOND ... JAMES BOND!

For the budding Gazza's and Lineker's and impersonators of "Universal Exports" most well known 'sales person' alike, Daniel Knowles of Kingston brings you tips for World Soccer and The Living Daylights.

First off we have a way to cheat the soccer pundits in **WORLD SOCCER** by turning off Joss MacDonald and just keep hitting the play button. Do this for 2 or 3 seasons then SAVE. When you play most of your men will have increased significantly.

The Living Daylights are no more a problem thanks again to Daniel as he gives us the way to gain your "OO" prefix.

Level 1: Not available
Level 2: Night Sights
Level 3: Hard Hat
Level 4: Bazooka
Level 5: Nothing much
Level 6: Not available
Level 7: Bazooka
Level 8: Ghetto Blaster

Level 1: Just push the joystick up and right and hold it there. When you reach the point where you can no longer run, move the sights to the bottom of the screen, change your weapon and shoot the KGB man.
Level 2 and 3: Just activate your special weapon and keep running and jumping. DO NOT STOP TO SHOOT.
Level 4: Activate your special weapon and first move your sights to roughly where the milkman is and keep tapping the joystick until you find him. Then shoot the helicopter and immediately run to the end.
Level 5: Move your sights over the source of the balloons and hold down fire.
Level 6: DOESN'T EXIST FOR SOME UNEXPLAINED REASON!!
Level 7: As level 4
Level 8: Turn on your special weapon, run a few steps, turn it off and then run to the end. Bradd Whitaker will be standing there, shoot him and you have completed the game.

THE VALLEY

Never be lost in The Valley again because Matthew Graham of Leigh-on-Sea brings help to this game. As this game is a CLOAD load game load it up and then edit line 1390 so that E=5000. This enables you to cast 3 spells, when your Psi is at or over 49. You could normally only cast one spell but this allows you to cast three spells.

INTERNATIONAL KARATE

Now all the way from Sweden comes some help for International Karate courtesy of Tobias Joborn of Upplands Vasby and so here are how many points are needed for each belt:-

Yellow belt: 6,000 pts.
Green belt: 12,000 pts.
Purple belt: 18,000 pts.
Brown belt: 26,000 pts.
Black belt: 40,000 pts.

When you get to the tricky bit of jumping and ducking those nasty revolving thingies coming at you it is surprisingly easy if you know how. If you are the white player the combination of incoming missiles are:-

RIGHT-RIGHT-LEFT-RIGHT-LEFT-LEFT-RIGHT-LEFT

If you are the red player all the directions are reversed.

ONE MAN AND HIS DROID

D. Murphy of Maghull Merseyside has been busy with his code breaking equipment, so much so that the M.O.D. has slapped a national security order on him, but he did manage to smuggle us the complete passwords to One Man and his Droid. So under extreme secrecy here they are:-

1. NOT AVAILABLE
2. BUBBLE
3. ATARI
4. FINDERS
5. GENETIC
6. ZAPPED
7. MEGASONIC
8. TIMEWARP
9. ECTOPLASM
10. GORGEOUS
11. SEASIDE
12. GIZMO
13. KING KONG
14. HOLOGRAM
15. CURRY RICE
16. COFFEE
17. CASSETTE
18. TELESCOPE
19. COMPUTER
20. EDACRAEDA

STRANDED SOLUTION

From the home of what are considered great football teams (I can't comment that much as I'm a rugby man myself) comes the solution to STRANDED supplied by Richard Humphreys of Merseyside a long time ago. (see we hadn't forgotten you Rich). As always the solution is written backwards so that DEEF LIBREG = FEED GERBIL.

W-TEG LEUF-N-D-W-N-BMILC EERT-TEG ETUHCARAP-D-S-S-E-U-U-S-PMUJ-TEG RESAL-PMUJ-S-E-N-TEG KCIPKCOL-N-W-D-S-TOOHS TOBOR-OG KCOLRIA-KCIP KCOL-PORD LEUF-LLUP REVEL-N-W-N-W-N-KCIP KCOL-E-E-TEG TIUS-W-W-S-S-E-S-E-E-E-N-W-W- S-S-TEG LAT-SYRC-N-N-W-W-W-N-KCIP KCOL-N-PORD LAT-SYRC-HSUP DER-S-E-S-S-TEG YEK-N-N-E-N-HSUP ETIHW-S-S-KCOLNU ROOD ....(emoh teews emoh).

Simple huh? Well not every thing in life is as difficult as trying to predict when the England cricket team are going to win a Test match!

SPY HUNTER

From Yasser Nabi of Leigh-on-Sea comes a hint for Spy Hunter. When you start off, if you go right so that you're car is off the road and in the trees on the edge then you can stay like this for ever without being killed, it does work because Yasser stayed like it for two hours and then got bored and had to turn the computer off. How can you get bored of Spy Hunter? It's a brilliant game!

THE ZETA BOMB

EXPOSE ON A DISK BONUS

Now is the time and place for a complete expose on the New Atari User Disk Bonus game of Issue 47, namely The Zeta Bomb, by Benjamin Arnold of Elstree, so hold your breath, grab hold of the trigger and here we go.

The cheat mode is activated by holding down START, SELECT and OPTION together which pauses the game. Then simply press the START key to release pause and you will be able to fly through anything and your fuel will fill up automatically when it runs out. If you want to turn off this mode then it can be switched off with the same procedure.

When you have to kill the monster, you have to shoot all the teeth in his mouth, and also his eye at the top. If the cheat mode is off, then all of the "fish" that come out will drain your energy so be careful.

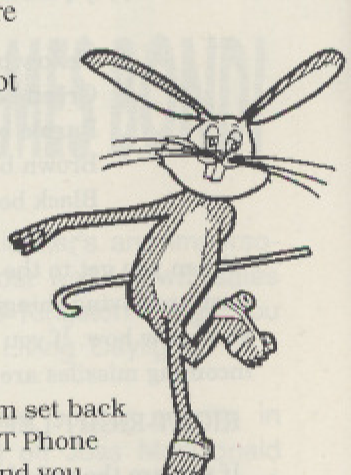
Finally, when you come to the bomb at the end, you will see the letters "DEFUSE IT" on the side (in the playing area) and "DEFUSE IT WITH ABC" at the bottom. Shoot the letters in the alphabetical order of "D E E F I S T U". Finally one last hint. When you have shot all the letters in the right order, the amount of fuel that you have remaining is added to your score. Therefore to get a maximum score, with the cheat mode on, shoot all of the letters apart from the U and then wait until your fuel has run down and then returned to its maximum and then shoot the U and it will make an enormous score possible. With this method Ben has said that he has managed scores in excess of 210000.



ZYBEX

How do you get to the restricted levels in Zybex? Well here's the answer, courtesy of Thomas and James Barlow of Maidstone. (I'll see you get a badge each) You must get all 11 crystals, yes thats write all 11 before you can enter any of them which is not what the instructions say.

Level 13 PYRIX Each of these levels are revealed one at a time after 8 tokens are gained but are not accessible until you have all 11 tokens.
Level 14 ZELAX
Level 15 CYRUX
Level 16 ZYBEX



QUICK E's

A nice easy one from Justin Kavanagh of Kilcooke, Co. Wicklow. To kill the Evil Ninja's in Mastertronic's **NINJA** use low kicks as otherwise they will use their swords. Cold steel and squidgy flesh makes an awful mess so be careful!!

David Knapman of Fareham says that if you are fed up of having to wait for Gordon to fetch his mower in **HOVVER BOVVER** then press fire and he runs to get it.

Sprinting in from Ian Barlow of Stockton-on-the-Forest is a tip concerning **DECATHLON** from Firebird. On the pole vault ignore the instructions and do this instead. Run to the pit, press fire and hold it down then when you are at the top, let go. Not quite Sergey Bubka but you know what I mean.

ET PHONE HOME

Finally to the answer to a problem set back in issue 46 "What do you do in ET Phone Home?" Well here's the answer and you have to thank James Gardiner of Livingston. You have to collect the 4 items and return to your house. Then guide E.T. to the clearing in the woods and stand on the green cube and press fire to summon your space ship and there you have it!

MOLECULE MAN

Back in issue 47 Rob Davidson cried out for help on Molecule Man and it has been answered by someone who hasn't given their name or address (I don't bite, honest. You can send your name in, your life isn't in danger!) but it's still very helpful so if you want a badge then send in your name and address to the usual address and tell us what other tips you sent and you'll get your badge. But now on with the help.

The idea of the game is that you are molecule man and you walk around corridors. When you find a coin (a small round thing) press P to pick it up. Scattered around are boxes and if you look you will see that some have a bottle of pills on the side and some have a bomb. Buy which ever you need. The aim of the game is to collect those big round things that are often in places that you can't reach and this is when you need the bomb. Simply walk up to the wall which you need to go through and press X. It will disappear and you can now pick up the thing by pressing P.

AND THE WINNER IS ...

TOP TIPPER of the month is Benjamin Arnold who receives the ELECTRONIC BACKGAMMON SET (if you can't play it Ben, you can always donate it to the Editor who got quite hooked on it!)

This Issue's prize is a fabulous DESKTOP HOLOGRAM that you can astound your friends with. Just prop it on your desk and be amazed at the effect. Comes complete with its own light for best viewing.

To win this fabulous prize however you have to send in TIPS, HINTS, or MAPS and you have to send them in NOW. DO IT!

HELP WANTED

This issue sees only one call for help which I can answer straight away and that is from David Knapman who wants help with Cloak of Death, well look in the Tipster columns of issue's 38 and 39 as it has all the help you could ever need. You can still get back issues of these and at very good prices. Details are elsewhere in this issue.

Has anyone completed any of the Level 9 adventures (you know the ones **RED MOON**, **PRICE OF MAJIK** and **LORDS OF TIME**) or any similar type of adventures? If you have send it in and revel in the glory of being one of the ones who have finished the quest.

Unfortunately that's all we have time for this issue, anyway my fingers hurt and I need a lie down in a dark quiet room. This issue saw three small hints called **QUICK E**'s (meaning Quick and Easy) which I would like to include several of in each issue and for this I need your little hint and tips, so send them to the address below and earn yourself an exclusive (and much sought after) Tipster badge.

Until we meet again adventurer, keep your broadsword well honed, your laser rifle well charged and your joystick well worn out!

Send all your cheats,tips and hints to:

THE TIPSTER
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

MIRROR TILE

by Mark Connolly

Mirror Tile is a very simple BASIC game with a few machine code routines to speed things up a tat. The objective is to rearrange the tiles on one grid to match those on the other grid shown alongside. Tiles can only be moved into adjacent empty squares. Everyone must at some stage have played this old chestnut of a game but just in case you haven't here's how to.

You are asked which difficulty level you wish to play at. There are 9 (1-9). Level 1 presents you with a 2 x 2 puzzle to solve, level 2 a 3 x 3 and so on up to level 9 which presents you with an enormous 10 x 10 puzzle. You are given a cursor control option - 0 for Joystick or 1 for Keyboard. For the keyboard the keys '-', '=', '+', '' perform their control code functions i.e. pressing '-' moves the cursor one tile up etc.*

The RETURN key moves the tile over which the cursor is positioned to the empty square. Not only can you move a tile to the left, right, above or below but you can move tiles on a diagonal to the empty square provided the tile to be moved is no more than 1 square away. The fire button performs this function for Joystick control.

You are given the option of having the computer choose the letters to fill the grid or you can choose them yourself. For any difficulty above 4 I think you should always choose them yourself.

If you choose level 3 and opt to choose the words yourself you will be asked to input one 3-letter word and three 4-letter words to fill a 4 x 4 grid with one tile missing. You may only enter any uppercase letter. The screen will then go blank and 2 4 x 4 grids appear on a Graphics 8 screen, the leftmost grid is the one that you must match in the rightmost by moving tiles about until all the letters are in the correct position.

```
EX 1 REM ################################
OV 2 REM #         MIRROR TILE          #
GE 3 REM #              by              #
XF 4 REM #        Mark Connolly         #
HC 5 REM # ---------------------------- #
WC 6 REM # NEW ATARI USER - APRIL '91 #
FD 7 REM ################################
NN 8 REM
GM 45 REM INITIALISE STRINGS
RJ 50 DIM CH$(82),BIT$(127),CH0$(27),CHK$
   (25),W$(10)
AS 55 REM ******************************
NJ 60 REM CH$:An MC string used to set up
    a random word selection
CO 65 REM BIT$:MC string used to work out
    which bits in the 8 locns of a letter
    that are turned on
TV 70 REM and then plots them
UL 75 REM CH0$: MC string mixes up the le
   tters in the words chosen by the playe
   r and places them
NJ 80 REM in locns $664-$6C7..The players
    chosen words are between $600 & $663
EH 85 REM CHK$: MC string checks to see i
   f both grid are the same
TX 90 REM W$: dummy text string used to i
   nput individual words
AW 95 REM ******************************
EQ 100 REM Initialisation Routine
BE 105 GRAPHICS 0:SETCOLOR 2,0,0:SETCOLOR
    1,0,10:POKE 82,0:POKE 752,1:? CHR$(12
   5);
TB 110 ? "Loading Data; Please Wait....";
GN 115 REM Load data for random word choi
   ce
YJ 120 READ D:IF D=-1 THEN 135
TQ 125 CH$(LEN(CH$)+1)=CHR$(D)
MI 130 GOTO 120
WZ 135 CH0$=CHR$(104):CH0$(LEN(CH0$)+1)=C
   H$(57,82)
XQ 140 REM Load data for letter bitmap
WX 145 READ D:IF D=-1 THEN 160
ID 150 BIT$(LEN(BIT$)+1)=CHR$(D)
QF 155 GOTO 145
XM 160 READ D:IF D=-1 THEN 170
PK 165 CHK$(LEN(CHK$)+1)=CHR$(D):GOTO 160
RA 170 REM
MK 175 REM Option Selection
WI 180 BIT=ADR(BIT$):CH=ADR(CH$):CH0=ADR(
   CH0$)
QF 185 OPEN #1,4,0,"K:"
OB 190 ? CHR$(125);"Input degree of diffi
   culty (1-9) ";
YV 195 GET #1,D:D=D-47:DD=D*D:D0=D-1
SL 200 IF D>=2 AND D<=10 THEN 210
RZ 205 GOTO 195
DG 210 KB=D0:GOSUB 265:? :? "Word Selecti
   on"
JL 215 ? "[0] Random ":? "[1] Players Cho
   ice"
QQ 220 GET #1,C:C=C-48
MI 225 IF C<>0 AND C<>1 THEN 220
CR 230 KB=C+128:POSITION 1,2+C:GOSUB 265
JD 235 POSITION 0,4
CL 240 ? :? "Cursor Control"
YJ 245 ? "[0] Joystick":? "[1] Keyboard";
AU 250 GET #1,KEY:KEY=KEY-48:IF KEY<0 OR
   KEY>1 THEN 250
BO 255 KB=KEY+128:POSITION 1,KEY+6:GOSUB
   265
PN 260 GOTO 280
RN 265 KB=KB+48
ZF 270 ? CHR$(KB);
AB 275 RETURN
TH 280 IF C=1 THEN 320
JN 285 REM Radom Word Selection
YJ 290 X=USR(ADR(CH$),DD)
IW 295 FOR T=0 TO DD-1
KE 300 IF PEEK(1636+T)=0 THEN PZERO=T
KO 305 NEXT T
```

```
AJ 310 PZY=INT(PZERO/D):PZX=PZERO-PZY*D
RO 315 GOTO 455
QS 320 REM
FY 325 CH$(13,13)=CHR$(96):XX=USR(ADR(CH$
   )):CH$(13,13)=CHR$(104)
RW 330 PN=0:? CHR$(125);D0;" letter word"
   ;
IZ 335 LW=D0:GOSUB 395
ZD 340 PN=PN+1
MJ 345 LW=D:? D;" letter words"
ZX 350 FOR S=1 TO D0:? "No";S;:GOSUB 395
KO 355 NEXT S
RS 360 POKE 207,PN
OA 365 X=USR(CH0)
IE 370 FOR T=0 TO DD-1
LH 375 IF PEEK(1636+T)=0 THEN PZERO=T
KP 380 NEXT T
BM 385 PZY=INT(PZERO/D):PZX=PZERO-PZY*D
RP 390 GOTO 455
MM 395 PX=PEEK(85):PY=PEEK(84)
JU 400 POKE 85,PX:POKE 84,PY:? "
       ";:POKE 85,PX:POKE 84,PY:INPUT W$:
   IF LEN(W$)<>LW THEN 400
KK 405 ACCEPT=1
```

```
ES 410 FOR T=1 TO LEN(W$)
NW 415 K=ASC(W$(T,T))
AE 420 IF K>=65 AND K<=90 THEN 430
KC 425 ACCEPT=0
QV 430 REM
DW 435 POKE 1536+PN,K-32:PN=PN+1
KI 440 NEXT T
UA 445 IF ACCEPT=0 THEN PN=PN-LW:GOTO 400
ZK 450 RETURN
HE 455 REM SET UP SCREEN
QB 460 XX=USR(ADR(CHK$))
IF 465 IF PEEK(29)<>DD THEN 475
YA 470 FOR T=1636 TO 1636+DD-1:POKE T,0:NEXT T:GOTO 360
ZW 475 X0=0:X1=0:X2=1
JK 480 GRAPHICS 8:SETCOLOR 2,0,0:SETCOLOR 1,0,10:COLOR 1
ML 485 POKE 559,0
XJ 490 PLOT X0+0,0
LO 495 DRAWTO X0+D*11+2,0
RR 500 DRAWTO X0+D*11+2,D*11+2
MR 505 DRAWTO X0+0,D*11+2
BM 510 DRAWTO X0+0,0
QI 515 FOR Y=2 TO (D-1)*11+2 STEP 11
PM 520 FOR X=2 TO (D-1)*11+2 STEP 11
PE 525 NO=((X-2)/11)+D*(Y-2)/11
SU 530 PLOT X+X0,Y:DRAWTO X+X0+9,Y
VV 535 DRAWTO X+X0+9,Y+9
YA 540 DRAWTO X+X0,Y+9:DRAWTO X+X0,Y
UK 545 PLOT X+X0,Y+1
MC 550 IF X0=0 THEN POKE 204,NO:GOTO 560
NB 555 POKE 204,101
AJ 560 XX=USR(BIT,PEEK(1536+X1+NO))
YO 565 COLOR 1
DA 570 POKE 204,101:IF (Y-2)/11<D0 THEN 580
NL 575 COLOR 0:PLOT X+X0,Y+12:XX=USR(BIT,((X-2)/11)+16):COLOR 1
MF 580 NEXT X
NH 585 POKE 204,101
LX 590 COLOR 0:PLOT X0+X+1,Y+1:XX=USR(BIT,((Y-2)/11)+16):COLOR 1
NG 595 NEXT Y
YD 600 IF X0=0 THEN X0=160:X1=100:X2=14:GOTO 490
RN 605 POKE 559,34
WY 610 REM CHOOSE TILE TO MOVE
JQ 615 PC=PZERO
CK 620 PC0=PC
ZE 625 GOSUB 855
IQ 630 REM MOVE CURSOR
DY 635 IF KEY=0 THEN 670
DP 640 GET #1,CM:POKE 764,255:IF CM=155 THEN 710
XP 645 IF CM=45 THEN 785
NK 650 IF CM=61 THEN 810
SW 655 IF CM=43 THEN 825
PK 660 IF CM=42 THEN 840
QC 665 GOTO 640
HL 670 REM JOYSTICK CONTROL
NO 675 IF PEEK(644)=0 THEN 710
LS 680 CM=PEEK(632)
WE 685 IF CM=14 THEN 785
MN 690 IF CM=13 THEN 810
QZ 695 IF CM=11 THEN 825
ZB 700 IF CM=7 THEN 840
QY 705 GOTO 670
ND 710 REM MOVE TILE
AM 715 IF PZX+PZY*D=PZERO THEN 635
ZT 720 PY0=INT(PZERO/D):PX0=PZERO-PY0*D
PQ 725 IF ABS(PZX-PX0)>1 THEN 635
QI 730 IF ABS(PZY-PY0)>1 THEN 635
FS 735 POKE 1636+PZERO,PEEK(1636+PC):POKE 1636+PC,0
YU 740 GOSUB 855
QE 745 PDX=PZX:PDY=PZY
KG 750 PZX=PX0:PZY=PY0
EE 755 PD=PZERO:PZERO=PC:PC=PD
YY 760 GOSUB 855
JO 765 PZX=PDX:PZY=PDY
SF 770 XX=USR(ADR(CHK$),DD)
PP 775 IF PEEK(29)=DD THEN 920
RP 780 GOTO 635
DJ 785 REM CURSOR UP
NQ 790 IF PZY=0 THEN 635
VJ 795 GOSUB 900
FP 800 PZY=PZY-1:GOSUB 915
RP 805 GOTO 635
EO 810 REM CURSOR DOWN
PB 815 IF PZY=D0 THEN 635
CI 820 GOSUB 900:PZY=PZY+1:GOSUB 915:GOTO 635
WF 825 REM CURSOR LEFT
MV 830 IF PZX=0 THEN 635
DF 835 GOSUB 900:PZX=PZX-1:GOSUB 915:GOTO 635
BC 840 REM CURSOR RIGHT
OX 845 IF PZX=D0 THEN 635
BC 850 GOSUB 900:PZX=PZX+1:GOSUB 915:GOTO 635
RS 855 REM
CN 860 PCP=PEEK(1536+PC)
WZ 865 POKE 1536+PC,PEEK(1636+PC)
YE 870 COLOR 1
SZ 875 PLOT 162+PZX*11,PZY*11+3
SP 880 POKE 204,PC0:XX=USR(BIT,PEEK(1636+PC))
LG 885 IF PC=101 THEN RETURN
GD 890 POKE 1536+PC,PCP
AL 895 RETURN
DJ 900 PC=PZX+PZY*D
KR 905 PC0=101:GOSUB 855:RETURN
NT 910 GOSUB 870:RETURN
WI 915 PC=PZX+PZY*D:PC0=PC:GOSUB 855:RETURN
NH 920 REM AGAIN Y/N
XI 925 POKE 764,255
XL 930 ? "Grid Completed...Again y/n?";
PO 935 IF PEEK(764)=255 THEN 935
TS 940 IF PEEK(764)=35 THEN POKE 764,255:GRAPHICS 0:NEW
NS 945 IF PEEK(764)=43 THEN GRAPHICS 0:SETCOLOR 2,0,0:SETCOLOR 1,0,10:POKE 82,0:POKE 752,1:GOTO 190
SP 950 GOTO 935
YN 955 REM DATA FOR TILE SELECTION
IR 960 DATA 104,162,0,138,157,0,6,232,224,200,208,248,104,170,104,168
UP 965 DATA 132,207,136,132,206,173,10,210,201,33,144,249,201,59,176,245
DO 970 DATA 133,203,172,10,210,196,207,176,249,185,0,6,208,244,165,203
QC 975 DATA 153,0,6,232,228,206,208,221,162,0,172,10,210,196,207,176
DR 980 DATA 249,185,100,6,208,244,189,0,6,153,100,6,232,228,207,208
ZY 985 DATA 233,96,-1
KK 990 REM DATA FOR MAPPING CHARACTER
EY 995 DATA 104,104,104,170,169,0,133,206,169,224,133,207,164,204,192,101
ZS 1000 DATA 240,16,185,0,6,217,100,6,208,4,169,255,208,2,169,0
LV 1005 DATA 133,205,165,206,224,0,240,14,24,105,8,133,206,169,0,101
EI 1010 DATA 207,133,207,202,208,236,165,85,133,30,165,86,133,31,160,0
BY 1015 DATA 177,206,69,205,133,28,132,203,160,0,132,29,162,96,169,11
NZ 1020 DATA 157,66,3,169,0,157,72,3,157,73,3,6,28,105,0,32
VA 1025 DATA 86,228,164,29,200,192,8,208,225,230,84,165,30,133,85,165
DF 1030 DATA 31,133,86,164,203,200,192,8,208,198,169,0,133,205,96,-1
MJ 1035 REM DATA FOR CHK$
ME 1040 DATA 104,104,104,133,28,162,0,134,29,189,0,6,221,100,6
JP 1045 DATA 208,2
KT 1050 DATA 230,29,232,228,28
SJ 1055 DATA 208,241,96,-1
```

Ian Finlayson's

TUTORIAL SUBROUTINES

PROGRAMMING FOR SPECIFIC TASKS

The fundamental program for this month's article was sent to me by Allan Thompson, and many thanks go to him for the program and the reminder of the programming principle that it illustrates very effectively. In the last issue the "homework" tutorial showed how a short program could fulfil a specific task, and the database listing here illustrates the same ability of a straightforward program to achieve a dedicated task. The program is not as short as the homework listing, but as you look through it you will see that there is no complex code - in fact when the whole database is typed in the code which handles the data will be quite trivial compared to the data itself.

The simplicity of this program stems from the fact that it is targeted at a very specific requirement, the display of one person's catalogue of videotaped films. It is not written as a program which anybody can use to build a database (like the address book database which was covered in three articles back in issues 37 to 39) but as a one user program with the data embedded in it. It is at exactly the opposite end of the scale from the commercial database which you might find on an office PC; here we have a simple listing which efficiently and cheaply meets a specific requirement, while the PC version has to be big and powerful to meet a large variety of requirements and this means it is expensive and not only that but it needs expensive hardware to run on. So if you have a specific requirement that you think your computer could help you with don't be afraid to try a little Basic programming. Your computer is not super intelligent, but it can manipulate and display data and calculate much faster and more accurately than you!

COMMUNICATIONS UPDATE

I have had a letter from James Bastable, who used to run the Ark bulletin board. He tells me that the Ark is now called The City and has a new number 021-352-1237. It supports baud rates from 300 to 2400 and is open 24 hours. It is mainly for 8-bit Atari, with a small ST section, so give him your support. There are not too many people putting themselves out for the 8-bit Atari user these days, and those who do need encouragement if they are to continue plugging away. The Ark Comms Disk (in the Page 6 public domain library) is about the best readily available software for Atari 8 bit comms, and James is currently working on an update.

THE DATABASE

The program is very simple. Don't be put off by its length as a lot of the lines are included as examples of data and need not be typed in by you. Just type lines 1 to 110 and 9999 onwards - everything in between is effectively data, and you can make a framework to put the data in with the second short program, Line Maker.

Line 10 sets the values of a set of variables which are the line numbers for the later GOSUB commands.
Lines 20 to 90 draw a title screen.
Line 100 calls subroutines at lines 10310, 10311 and 10330 in turn.
Line 110 goes to the line number appropriate to the letter key pressed in the KP subroutine. They are spaced apart by 200 with A at 200, B at 400 and so on. This ensures plenty of space for data to be fitted in later.

I have put in some dummy data representative of a list of videotaped films and their run times - don't ask to borrow a copy of the films, the names are fictitious! I have only put data in for letters A,B and C and "No entries" statements for D and E. All other letters require filling in with your own data. The format of the data can be changed to suit our requirements as long as each line is only 40 characters long.

I will use C as an example to describe the lines of data as it is the only letter for which I have typed in enough data to go onto a second screen.

Line 599 is the REM statement inserted to show where in the listing the C data starts.
Line 600 calls subroutine RA to draw a line across the screen below the heading.
Lines 630 to 697 are print statements which print single lines of embedded data on the screen. You will notice that the line numbering is not even. I did this deliberately to show that you do not need to maintain an even spacing, but can go back and put new data between the old lines at a later date, or delete lines if you wish. The only limit is a total of 20 lines on one screen.
Line 698 is needed at the end of a screen of data if there is more of the same letter to follow. It is NOT needed if there are less than 20 records for the letter concerned. All it does is call subroutines RA (a line across the screen), RR (a prompt for a

continued on page 36

```
EI 1 REM ******************************
QN 2 REM *  TUTORIAL SUBROUTINE 21      *
KR 3 REM *      SIMPLE DATABASE         *
NA 4 REM *     by Allan Thompson        *
NT 5 REM *  modified by Ian Finlayson   *
ED 6 REM * -------------------------- *
FP 7 REM * NEW ATARI USER - April 1991 *
EP 8 REM ******************************
NO 9 REM
EV 10 SR=10000:RR=10010:KP=10310:KQ=10311
   :KC=10330:RA=10300
QH 20 GRAPHICS 18
EH 30 SETCOLOR 4,185,6
BT 40 POSITION 7,0:? #6;"v/tape"
BL 50 POSITION 8,2:? #6;"film"
SM 60 POSITION 7,4:? #6;"A to Z"
NE 70 POSITION 0,5:? #6;"▸▸▸▸▸▸▸▸▸▸▸▸▸▸▸▸
   ▸▸▸▸"
YQ 80 POSITION 4,7:? #6;"PRESS A TO Z"
VZ 90 POSITION 4,9:? #6;"OR SPACE BAR"
DM 100 GOSUB KP:GOSUB KQ:GOSUB KC
QZ 110 GOTO (KEY-64)*200
UO 199 REM ***    LETTER A     ***
OI 200 GOSUB RA
ZT 210 ? " 35* AIRPLANE ADVENTURE      * 1
   :40:50 *"
BY 220 ? " 14* AIRPORT DISASTER        * 1
   :21:44 *"
BG 230 ? " 72* AIRPORT DISASTER II     * 1
   :48:21 *"
QO 240 ? " 27* AIRPLANE TAKE OFF       * 1
   :28:12 *"
YT 250 ? " 46* ANOTHER AIR DISASTER    * 1
   :44:23 *"
US 260 ? " 46* AIR DISASTER (SON OF!) * 1
   :44:23 *"
SB 270 ? " 92* AIRSHIP DISASTER        * 1
   :34:13 *"
MC 398 GOSUB RA:GOSUB SR:GOTO 100
VM 399 REM ***    LETTER B     ***
OK 400 GOSUB RA
KW 410 ? " 53* BATTLE IN THE SWAMP     * 1
   :40:50 *"
ES 420 ? " 41* BATTLE IN THE DESERT    * 1
   :19:20 *"
NJ 430 ? " 66* BATTLE IN THE SNOW      * 1
   :37:44 *"
ME 598 GOSUB RA:GOSUB SR:GOTO 100
LL 599 REM ***    LETTER C1    ***
OM 600 GOSUB RA
KQ 610 ? "  1* CAR (THE)               * 1
   :29:45 *"
YZ 620 ? " 18* COMEDY HOUR             * 1
   :00:00 *"
BQ 630 ? " 28* CHAPLIN AT WORK         * 0
   :20:20 *"
ZW 640 ? " 44* CHARLIES UNCLE          * 1
   :11:12 *"
TK 650 ? " 48* CARRY ON PROGRAMMING    * 1
   :44:32 *"
XK 655 ? " 48* CARRY ON PAGE 6         * 1
   :44:32 *"
WK 660 ? "  3* CARRY ON COMPUTING      * 1
   :33:43 *"
VU 665 ? " 55* CARRY ON (WHAT A)       * 1
   :23:22 *"
DA 670 ? " 61* CARRY ON CONTRIBUTING   * 1
   :32:32 *"
MC 675 ? " 69* CARRY ON KEYING         * 1
   :56:43 *"
MP 680 ? " 16* CARRY ON CORRESPONDING * 1
   :54:54 *"
JO 685 ? "  9* CARRY ON ATARI USER     * 1
   :33:56 *"
FR 690 ? " 71* CARRY ON COMMUNICATING * 1
   :21:22 *"
KJ 691 ? " 88* CARRY ON PEEKING        * 1
   :33:16 *"
TY 692 ? " 45* CARRY ON POKING         * 1
   :21:41 *"
DK 693 ? " 71* CARRY ON ADVENTURING    * 1
   :19:22 *"
HY 694 ? " 64* CARRY ON DOWN THE CLUB * 1
   :14:44 *"
LG 695 ? " 31* CARRY ON AND CARRY OFF * 1
   :21:22 *"
GP 696 ? " 32* CARRY ON DOWN THE LIST * 1
   :24:33 *"
LE 697 ? " 31* CARRY ON -> NEXT SCREEN* 1
   :13:13 *"
RI 698 GOSUB RA:GOSUB RR:GOSUB KP:GOSUB K
   C
MJ 699 REM ***    LETTER C2    ***
ON 700 GOSUB RA
SU 710 ? " 16* CURSE OF FRANKENSTEIN  * 1
   :54:54 *"
NV 720 ? " 77* CARRY ON CURSING        * 1
   :45:45 *"
MG 798 GOSUB RA:GOSUB SR:GOTO 100
XI 799 REM ***    LETTER D     ***
OO 800 GOSUB RA
QX 810 ? " NO ENTRIES FOR D"
MI 998 GOSUB RA:GOSUB SR:GOTO 100
YG 999 REM ***    LETTER E     ***
SO 1000 GOSUB RA
XR 1010 ? " NO ENTRIES FOR E"
KR 1198 GOSUB RA:GOSUB SR:GOTO 100
QA 1200 REM ***************************
PE 1201 REM *                         *
GK 1202 REM * REPEAT LINES 999 TO 1198 *
TX 1203 REM * AT INTERVALS OF 200 TO   *
XI 1204 REM * SET UP A FRAMEWORK FOR   *
ZX 1205 REM * LETTERS F TO Z - OR USE  *
YV 1206 REM * THE "MAKE" ROUTINE       *
QC 1207 REM *                         *
RG 1208 REM ***************************
CY 9999 REM *** SR & RR - PROMPTS ***
TB 10000 ? "PRESS A LETTER TO GO TO A-Z O
   R SPACE BAR":RETURN
ZW 10010 ? "PRESS ANY KEY FOR MORE";:RETU
   RN
EA 10299 REM ***    RA=LINE    ***
PN 10300 ? "──────────────────────────
   ──────────":RETURN
IH 10309 REM *** KP=KEYPRESS ***
IQ 10310 OPEN #1,4,0,"K:":GET #1,K:CLOSE
   #1:RETURN
XQ 10311 REM ***  KQ=KEY CHECK***
JO 10312 IF K=32 THEN K=KEY+1:GOTO 10316
FW 10314 IF K>96 AND K<113 THEN K=K-32
KM 10316 IF K<65 OR K>90 THEN K=65
JX 10318 KEY=K:RETURN
ZB 10329 REM ***  KC=KEYCODE  ***
QC 10330 GRAPHICS 0:POKE 82,0:POKE 752,25
   0
TJ 10340 COL=(KEY-64)*8:POKE 710,COL:POKE
    712,COL:POKE 709,COL-4
OX 10350 ? "K▸▸V'TAPE ";CHR$(KEY):RETURN
```

```
EI 1 REM ******************************
FD 2 REM *  TUTORIAL SUBROUTINE 21A    *
BQ 3 REM *    DATABASE LINE MAKER      *
RR 4 REM *             by              *
WL 5 REM *        Ian Finlayson        *
ED 6 REM * -------------------------- *
FP 7 REM * NEW ATARI USER - April 1991 *
EP 8 REM ******************************
CK 32000 FOR X=1 TO 26
QV 32010 ? "K↓↓↓";200*X-1;" REM ***** LET
   TER ";CHR$(64+X);" *****"
XU 32020 ? 200*X;" GOSUB RA"
UG 32030 ? 200*X+198;" GOSUB RA:GOSUB SR:
   GOTO 100"
TU 32040 ? "↓↓CONT"
WC 32050 POSITION 2,0:POKE 842,13:STOP
DE 32060 POKE 842,12
NP 32070 NEXT X
GO 32080 ? "K↓↓↓":FOR X=32000 TO 32100 ST
   EP 10:? X:NEXT X
KA 32090 ? "↓↓POKE 842,12"
VL 32100 POSITION 2,0:POKE 842,13:STOP
```

key press), KP (the key press subroutine) and KC (to call the screen colour and title).
Line 699 is the REM statement to highlight the start of the second screen under the C heading.
Line 700 is the same as 600 then more data follows in lines 710 and 720.
Line 798 is the last line of the C series. It calls the subroutines for the line across the screen to be drawn and to prompt for a letter key to be pressed, and then returns to the main calling routine at line 100. A duplicate of this line must be included at the end of each letter's data.

After the data come a few lines containing simple subroutines as follows:

SR - Line 10000 - Prompts for a key A-Z or space bar to be pressed. The program functions so that a letter key takes you to the data for that letter, while the space bar takes you on to the letter after the one you are currently at (or back to A if you are at Z).
RR - Line 10010 - Another prompt, this time to press any key. This is used to take you on from one screen of data to the next under the same initial letter.
RA - Line 10300 - Draws a continuous line across the screen.
KP - Line 10310 - Gets data from a key press in the variable K.
KQ - Lines 10312 to 10318 - Checks the value returned in K by the key press subroutine. If K=32 the space bar has been pressed, so K is made equal to the previous KEY value plus one, this moves on one letter. If K is in the range 96 to 113 then a lower case letter has been pressed and this is converted to the upper case equivalent by subtracting 32. If K is now out of the range 65 to 90 (A to Z) then a number or other key has been pressed so we arbitrarily go to A. Finally in line 10318 the new KEY value is set equal to K before we return to the main part of the program.
KC - Lines 10330 to 10350 - First in line 10330 we reset the graphics mode to 0. Next set the screen left margin to zero to get forty characters on a line, and then switch the cursor off. Then in line 10340 we generate a value COL which will give a different screen colour depending on which letter has been selected. Locations 710 and 712 define the screen background and border colour and location 709 defines the brightness of the text. The colour value for 709 is set to be different from the background by four, thus ensuring a satisfactory legible contrast. The final line prints the heading line for the selected letter across the top of the screen.

LINE WRITER

Now we have finished with the main program we will take a look at the short one. This is rather more clever and it writes part of the main program for you, so I hope you have not typed it all in before you read this far! Back in issue 35 I wrote a program that modified itself using the forced read mode, and here is another application. The program writes lines that form a framework for the data entries for each letter of the alphabet. Let me explain how it works.

Line 32000 sets up a FOR-NEXT loop for the 26 letters of the alphabet.
Lines 32010 to 32040 clear the screen and then display lines like 199, 200 and 298 of the main listing followed by CONT on a separate line.
Line 32030 moves the cursor to the top of the screen, sets up for forced read by the POKE to location 842 and the invokes forced read by the STOP command. What happens then is the computer exits from the program and reads the lines on the screen into the program in memory. When it gets to the CONT in line 32050 starts the process again for the next letter of the alphabet.

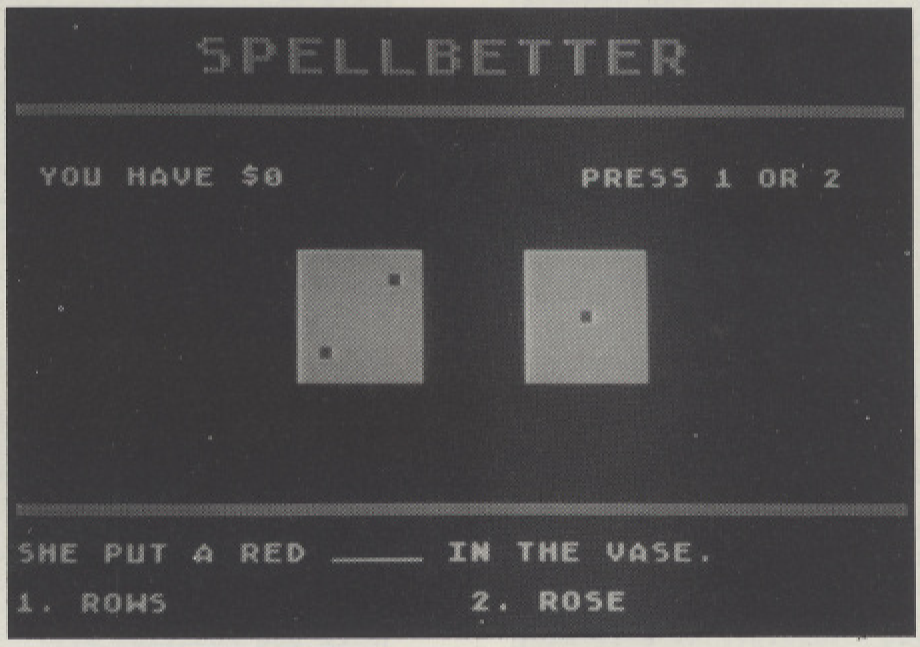
Once the alphabet is complete the program moves on to line 32080. This just clears the screen and lists the line numbers of the Make routine on the screen. Now when we invoke forced read the line numbers are scanned, but they have no associated Basic alongside them so they are deleted - the result is a self-deleting program - clever isn't it? Just one warning - be sure to save the program before you run it or you will have to start again from scratch!
This little routine can be added to the main program and run by a direct command GOTO 32000 instead of RUN. However it is probably safer to run it on its own then LIST the resulting database framework to tape or disk, LOAD the main program and finally ENTER the framework to combine it with the main program.

I am always pleased to get letters so please write me. I would be particularly pleased to hear of other applications of the forced read procedure. If you want to write with a query about Basic programming please include a stamped addressed envelope for a reply.

Write to:
**Ian Finlayson, 60, Roundstone Crescent,
East Preston, West Sussex, BN16 1DQ.**

XL/XE TYPE-IN

SPELLBETTER



This is a simple spelling program for children aged 8-10 approximately. The program also allows adults to create their own spellings files and save them on disk or cassette, so it can be adapted to suit older or younger kids.

This version has a built-in file of 25 records, created with data statements. There are a couple of spare files on this Issue's disk:- SPARE.BET for the 9 year olds and OLDIES.BET for big people!

PLAYING A GAME

Try your luck against the ATARI in this dice game. Press the joystick trigger to toss your two dice. Then bet $5, $10, $15 or $20 that the Atari will get a lower score when it tosses its dice. The game ends when either player runs out of money.

The ATARI starts off with $75, but you have to earn your betting money first by getting some spellings right: You'll be shown a sentence with a word blanked out plus 2 spellings of the missing word. Choose between them by pressing 1 or 2 on the keyboard. There is a $5 reward for each correct answer and there are 15 sentences altogether; you press space to move from one to the next.

by

Ann O'Driscoll

MAKING A NEW FILE

This option allows you to make your own file of 25 new records, to be saved on disk or tape. Each record has 3 parts:

1. A sentence up to 39 letters long about the word being tested.
2. The word itself, using the right spelling (up to 12 letters long).
3. The same word, using an incorrect spelling (up to 12 letters long)

You get the chance to verify each record after input. When the records are ready you are asked if you want to save them on disk or cassette - just press C or D and follow the on-screen prompts. When saving is complete you are returned to the program menu.

LOADING A FILE

This option allows you to load and use a previously saved file instead of the 25 built-in sentences. Disk users may either input a filename or get a list of files on the disk which use the extender .BET - this extender is given to all the files made with this program.

You are returned to the menu when the file is loaded in; press START at that stage to use the loaded data.

OTHER POINTS

The program only uses 15 out of 25 sentences each time, so the spellings tend to vary for consecutive games.

While the data statements for the built-in records use capital letters, the program can also cope with lower case mode which may be more suitable for younger users.

That's it!

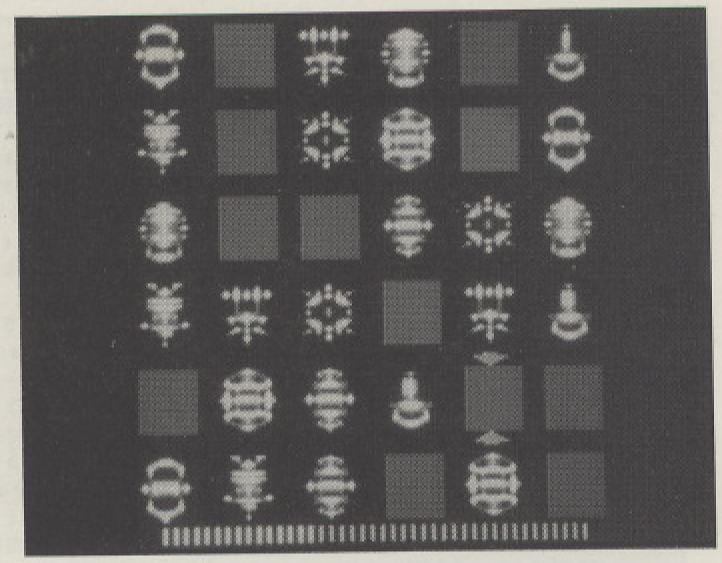
SPELLBETTER

```
EX 1 REM ####################################
QF 2 REM #          SPELLBETTER            #
GE 3 REM #              by                 #
NE 4 REM #         Ann O'Driscoll          #
HC 5 REM # ------------------------------- #
WC 6 REM # NEW ATARI USER - APRIL '91 #
FD 7 REM ####################################
NN 8 REM
ZR 32 REM ---- SPELLBETTER ----
BI 34 REM
FK 49 REM  SET THINGS UP AND MENU
TO 50 NS=25:LS=39:LA=12:CLOSE #3:OPEN #3,4,0,"K:":POKE 702,64:POKE 694,0
UR 60 TSS=300:DAT=380:PK=400:SCRN=410:BLNK=450:BRK=460:FLSH=470:INOUT=500:CIO=550:FNAM=600:GAM=800
DW 70 DIM SEN$(NS*LS),R$(NS*LA),W$(NS*LA),A$(LS),B$(LA),C$(LA),BL$(39),FILE$(14),SC$(39),FLAG(NS)
WK 90 SEN$(1)=" ":SEN$(NS*LS)=" ":SEN$(2)=SEN$:R$=SEN$:W$=SEN$:BL$=SEN$
QG 100 GRAPHICS 18:POKE 708,54:POKE 710,0:POKE 709,138:POKE 711,28:ROW=3
MI 110 POSITION 4,3:? #6;"play a game":? #6;"    LOAD A FILE":? #6;"    MAKE A FILE":? #6;"    END PROGRAM"
XX 120 COLOR 35:PLOT 1,0:DRAWTO 17,0:DRAWTO 17,8:DRAWTO 1,8:DRAWTO 1,0:POSITION 4,0:? #6;"spellbetter"
KM 130 POSITION 0,10:? #6;"PUSH select TO PICK PUSH start TO BEGIN";:GOSUB BRK
RT 140 IF PEEK(53279)=6 THEN GOTO ROW*1000
US 150 IF PEEK(53279)<>5 THEN 140
CW 160 ROW=ROW+1:IF ROW>6 THEN ROW=3
WR 170 POSITION 4,ROW:GOSUB 180+ROW:FOR D=1 TO 25:SOUND 0,30,10,12:NEXT D:SOUND 0,0,0,0:GOTO 140
DP 183 ? #6;"play a game":POSITION 4,6:? #6;"END PROGRAM":RETURN
AN 184 ? #6;"load a file":POSITION 4,3:? #6;"PLAY A GAME":RETURN
AO 185 ? #6;"make a file":POSITION 4,4:? #6;"LOAD A FILE":RETURN
WO 186 ? #6;"end program":POSITION 4,5:? #6;"MAKE A FILE":RETURN
EI 299 REM  TOSS DICE . 300 - 360
IL 300 FOR TOSS=1 TO 10:FOR X=X1 TO X2 STEP 20:COLOR 2:PLOT 7+X,20:PLOT 4+X,23:PLOT 10+X,17:PLOT 4+X,17
RB 310 PLOT 10+X,23:PLOT 4+X,20:PLOT 10+X,20:OT=T:T=INT(RND(0)*6+1):SOUND 0,0,8,15:SOUND 0,0,0,0
PY 320 COLOR 0:GOSUB 330+T*5:NEXT X:NEXT TOSS:RETURN
KS 335 PLOT 7+X,20:RETURN
UY 340 PLOT 4+X,23:PLOT 10+X,17:RETURN
GX 345 PLOT 7+X,20:PLOT 4+X,23:PLOT 10+X,17:RETURN
WQ 350 PLOT 4+X,23:PLOT 10+X,17:PLOT 4+X,17:PLOT 10+X,23:RETURN
JB 355 PLOT 7+X,20:PLOT 4+X,23:PLOT 10+X,17:PLOT 4+X,17:PLOT 10+X,23:RETURN
ZB 360 PLOT 4+X,20:PLOT 10+X,20:PLOT 4+X,23:PLOT 10+X,17:PLOT 4+X,17:PLOT 10+X,23:RETURN
KJ 379 REM  FILL STRINGS  380 - 390
GU 380 SEN$(LS*(N-1)+1,LS*(N-1)+LEN(A$))=A$:R$(LA*(N-1)+1,LA*(N-1)+LEN(B$))=B$:W$(LA*(N-1)+1,LA*(N-1)+LEN(C$))=C$
ZR 390 RETURN
JX 399 REM  SCREEN ROUTINES. 400 - 490
TO 400 FOR W=1 TO LEN(SC$):POKE SC+WW+W,ASC(SC$(W,W))-32*(ASC(SC$(W,W))<96):NEXT W:RETURN
AI 410 GRAPHICS 0:DL=PEEK(560)+256*PEEK(561):POKE DL+3,70:POKE DL+6,6:POKE DL+9,6:POKE DL+10,6:POKE DL+21,6
PS 420 POKE DL+22,6:POKE 82,0:POKE 752,1:POKE 708,136:POKE 709,92:POKE 710,0:POKE 711,58:GOSUB BRK:RETURN
WX 450 POSITION 0,18:? BL$;BL$;:POSITION 0,16:RETURN
LX 460 POKE 16,64:POKE 53774,64:FOR P=100 TO 0 STEP -4:SOUND 0,P,10,12:NEXT P:RETURN
FO 470 ? "}↓PRESS  START  TO BEGIN":PP=PEEK(755)
EH 480 FOR D=1 TO 20:IF PEEK(53279)<>6 THEN NEXT D:POKE 755,2-PEEK(755):GOTO 480
BQ 490 POP :POKE 755,PP:SC$=BL$:WW=160:GOSUB PK:WW=640:GOSUB PK:? CHR$(125);:RETURN
GI 499 REM  IN/OUT + CIO  500 - 560.
TB 500 A=ADR(SEN$):L=LS*NS:GOSUB CIO:A=ADR(R$):L=LA*NS:GOSUB CIO:A=ADR(W$):L=LA*NS:GOSUB CIO:CLOSE #1:RETURN
OW 550 IOCB=848:POKE IOCB+2,F:HI=INT(A/256):LO=A-HI*256:POKE IOCB+4,LO:POKE IOCB+5,HI
ZM 560 HI2=INT(L/256):LO2=L-256*HI2:POKE IOCB+8,LO2:POKE IOCB+9,HI2:I=USR(ADR("hhh▒LV▒"),16):RETURN
FZ 599 REM  NAME + DIRECTORY  600-750
FK 600 POSITION 0,8:? "ARE YOU ";B$;" CASSETTE OR DISK?":? "PLEASE PRESS C OR D"
QN 610 GET #3,KEY:IF KEY<>67 AND KEY<>68 THEN 610
VM 620 POSITION 0,8:? BL$:? BL$:POSITION 1,3:? B$;:IF KEY=68 THEN FILE$(1,2)="D:":? " DISK":GOTO 650
OL 630 FILE$="C:":? " TAPE":POSITION 0,6:? "Insert the tape and press PLAY ";:IF B$(1,1)="S" THEN ? "& RECORD";
CR 640 ? :? "then press RETURN on the computer.":RETURN
EK 650 POSITION 0,6:? "Please INPUT A FILENAME up to 8 letters long. Do not specify any extender.":POKE 752,0
PI 660 IF B$(1,1)="L" THEN ? :? "Type DIR to get a list of files on the  disk which work with this program."
OP 670 ? :? "D:";:INPUT #16;A$:IF A$="DIR" AND B$(1,1)="L" THEN 700
LG 680 FILE$(3)=A$:FILE$(LEN(FILE$)+1)=".BET":RETURN
PD 700 OPEN #2,6,0,"D:*.BET":POKE 752,1:POSITION 0,12:? "PRESS SPACE TO CYCLE RETURN TO SELECT":DIR=-1
UF 710 INPUT #2,A$:DIR=DIR+1:IF LEN(A$)<17 THEN LN=700:GOTO 930
BA 720 POSITION 0,14:? "filename  ";A$(3,10):GET #3,KEY:ON KEY=155 GOTO 730:ON KEY=32 GOTO 710:GOTO 720
AV 730 FOR N=3 TO 10:IF A$(N,N)=" " THEN FILE$(3)=A$(3,N-1):POP :GOTO 750
RL 740 NEXT N:FILE$(3)=A$(3,10)
VJ 750 FILE$(LEN(FILE$)+1)=".BET":RETURN
OQ 799 REM  GAMBLE  800 - 850
LC 800 ? CHR$(125);"▒   HANG ON.. DO YOU WANT TO GAMBLE          EVERYTHING ON THE NEXT TOSS [Y/N]?"
AB 810 GET #3,KEY:IF KEY<>78 AND KEY<>89 THEN 810
PO 820 ? CHR$(125);:IF KEY=78 THEN 850
TF 830 SC$="YOUR BET: YOUR SHIRT":WW=641:GOSUB PK:X1=3:X2=23:GOSUB TSS:TOT1=T+OT:? "} THIS IS IT...."
QR 840 FOR D=1 TO 300:NEXT D:X1=43:X2=63:GOSUB TSS:TOT2=T+OT:BT=51:IF TOT1>TOT2 THEN BT=52
ZO 850 RETURN
VK 899 REM  TRAPS AND ERRORS 900-950
QZ 900 POKE 752,1:POSITION 0,17:? "▒AARGH - IT'S ERROR NO. ";PEEK(195);" AT LINE ";PEEK(186)+256*PEEK(187)
WU 910 ? "PUSH SPACE WHEN YOU'VE FIXED IT UP..":GET #3,KEY:IF KEY<>32 THEN 900
YH 920 CLOSE #1:CLOSE #2:GOTO LN
KU 930 POSITION 0,16:? "NUMBER OF SPELLIN
```

```
   G FILES ON DISK = ";DIR:? "PUT IN A NE
   W DISK AND PUSH THE SPACEBAR";
VT 940 GET #3,KEY:IF KEY<>32 THEN 940
HS 950 FOR Y=14 TO 17:POSITION 0,Y:? BL$:
   NEXT Y:CLOSE #2:GOTO LN
HN 2999 REM  PLAY A GAME  3000 >>>
SE 3000 GRAPHICS 5:DL=PEEK(560)+256*PEEK(
   561):SC=PEEK(88)+256*PEEK(89):POKE DL+
   3,71:POKE DL+13,2:POKE DL+36,2
UK 3010 FOR N=38 TO 41:POKE DL+N,0:NEXT N
   :POKE 752,1:POKE 709,28:POKE 710,0:POK
   E 82,0:COLOR 1:SC$="SPELLBETTER"
TG 3020 WW=3:GOSUB PK:GOSUB BRK:PLOT 0,3:
   DRAWTO 79,3:PLOT 0,35:DRAWTO 79,35:COL
   OR 2
VY 3030 SC$="FIRST YOU MUST EARN YOUR BET
   TING MONEY":WW=160:GOSUB PK:FOR X=25 T
   O 45 STEP 20:FOR Y=15 TO 25
CH 3040 PLOT X,Y:DRAWTO X+10,Y:NEXT Y:NEX
   T X:X1=23:X2=43:GOSUB TSS
GD 3050 SC$=".. BY GETTING SOME SPELLINGS
    RIGHT":WW=640:GOSUB PK:IF SEN$(1,2)<>
   "  " THEN 3070
YY 3060 ? "}↓   WAIT A MINUTE...":RESTORE
    9010:FOR N=1 TO NS:READ A$,B$,C$:GOSU
   B DAT:NEXT N:? CHR$(125);
VF 3070 GOSUB FLSH:S1=0:S2=75:CT=0:FOR N=
   1 TO NS:FLAG(N)=0:NEXT N
BF 3079 REM ------ SPELL  ------
WD 3080 SC$="YOU HAVE $0":WW=160:GOSUB PK
   :FOR N=1 TO 15:X1=23:X2=43:GOSUB TSS
TI 3100 Q=INT(RND(0)*NS+1):IF FLAG(Q)<>0
   THEN 3100
KZ 3110 SC$="PRESS 1 OR 2":WW=184:GOSUB P
   K:? SEN$(LS*(Q-1)+1,LS*Q):?
CU 3120 IF RND(0)>=0.5 THEN ? "1. ";W$(LA
   *(Q-1)+1,LA*Q),"2. ";R$(LA*(Q-1)+1,LA*
   Q):FLAG(Q)=2:GOTO 3140
UI 3130 ? "1. ";R$(LA*(Q-1)+1,LA*Q),"2. "
   ;W$(LA*(Q-1)+1,LA*Q):FLAG(Q)=1
EP 3140 GET #3,KEY:KK=KEY-48:IF KK<>1 AND
    KK<>2 THEN 3140
UC 3150 IF KK=FLAG(Q) THEN S1=S1+5:P=30:S
   C$=STR$(S1):WW=170:GOSUB PK:SC$="CORRE
   CT! YOU WIN $5":GOTO 3170
BJ 3160 SC$="NO! THE RIGHT SPELLING IS ":
   SC$(27)=R$(LA*(Q-1)+1,LA*Q):P=120
WM 3170 SOUND 0,P,10,12:WW=640:GOSUB PK:S
   OUND 0,0,0,0:SC$="PRESS SPACE ":WW=184
   :GOSUB PK
KZ 3180 GET #3,KEY:IF KEY<>32 THEN 3180
FI 3190 SC$=BL$:WW=640:GOSUB PK:SC$=BL$(1
   ,12):WW=184:GOSUB PK:? CHR$(125);:NEXT
    N
BI 3200 FOR P=1 TO 14:SOUND 0,P*15,10,10:
   SOUND 1,15*(15-P),10,8:FOR D=1 TO 10:N
   EXT D:NEXT P:SOUND 0,0,0,0
ZY 3210 SOUND 1,0,0,0:POKE 708,138:POKE 7
   09,14:IF S1>0 THEN 3300
WO 3220 ? "  YOU DIDN'T MAKE ANY MONEY TH
   AT TIME!":? "}PRESS  START  TO TRY AGA
   IN"
HV 3230 ON PEEK(53279)=6 GOTO 100:GOTO 32
   30
PP 3299 REM ------ BETTER ---------
TP 3300 SC$="TOSS YOUR DICE AND THEN BET
   THAT ...":WW=160:GOSUB PK:FOR X=5 TO 6
   5 STEP 20:FOR Y=15 TO 25:COLOR 2
NW 3310 PLOT X,Y:DRAWTO X+10,Y:NEXT Y:NEX
   T X:SC$="THE ATARI WILL GET A LOWER SC
   ORE":WW=640:GOSUB PK:GOSUB FLSH
CA 3320 SC$="YOU HAVE $":SC$(LEN(SC$)+1)=
   STR$(S1):WW=161:GOSUB PK:SC$="ATARI HA
   S $75":WW=181:GOSUB PK
XH 3330 POKE 657,6:? "PRESS THE JOYSTICK
   TRIGGER":POKE 657,10:? "TO TOSS YOUR D
   ICE"
KD 3350 IF STRIG(0)=1 THEN 3350
DB 3355 IF CT>6 AND CT/7=INT(CT/7) THEN G
   OSUB GAM:IF KEY=89 THEN ? CHR$(125);:G
   OTO 3430
QT 3360 ? CHR$(125);:X1=3:X2=23:GOSUB TSS
   :TOT1=T+OT:BT=5:BMX=20:IF S1<20 OR S2<
   20 THEN BMX=S1*(S1<S2)+S2*(S2<=S1)
BE 3370 SC$="YOUR BET: $5":WW=641:GOSUB P
   K:SC$="MAXIMUM BET: $":SC$(15)=STR$(BM
   X):WW=661:GOSUB PK
QN 3380 POKE 657,5:? "MOVE THE JOYSTICK T
   O CHANGE THE":POKE 657,6:? "STAKES THE
   N PRESS THE TRIGGER"
SG 3390 BT=BT+5*((STICK(0)=14 AND BT<BMX)
   )-5*((STICK(0)=13 AND BT>9)):FOR D=1 T
   O 15:NEXT D
OE 3400 SC$=STR$(BT):SC$(LEN(SC$)+1)=" ":
   WW=652:GOSUB PK:IF STRIG(0)=1 THEN 339
   0
QX 3410 ? CHR$(125);:X1=43:X2=63:GOSUB TS
   S:TOT2=T+OT:CT=CT+1
DS 3430 IF TOT1>TOT2 THEN S1=S1+BT:S2=S2-
   BT:P=25:? " YOU WIN!  ";:A$="THE ATARI
    HAS ":GOTO 3450
HK 3440 S1=S1-BT:S2=S2+BT:P=125:? " THE A
   TARI WINS!  ";:A$="YOU HAVE "
AP 3450 SOUND 0,P,10,12:SC$=STR$(S1):SC$(
   LEN(SC$)+1)="  ":WW=171:GOSUB PK:SC$=S
   TR$(S2):SC$(LEN(SC$)+1)="  "
FZ 3460 WW=192:GOSUB PK:SOUND 0,0,0,0:SC$
   =BL$:WW=640:GOSUB PK
OC 3470 IF S1>0 AND S2>0 THEN ? "PRESS  F
   IRE  TO TOSS":GOTO 3350
WW 3490 ? A$;"NO MONEY!":? "}↓THE GAME TO
   OK ";CT;" TURNS";:IF CT=1 THEN ? "← "
HN 3500 POKE 708,40:POKE 709,28:FOR V=15
   TO 0 STEP -1:SOUND 0,32,10,V:SOUND 1,2
   7,10,V:SOUND 2,20,10,V
CJ 3520 SOUND 3,43,10,V:FOR D=1 TO 15:NEX
   T D:NEXT V:SC$=">>     PRESS FIRE FOR T
   HE MENU      <<":WW=641:GOSUB PK
JZ 3530 IF STRIG(0)=1 THEN 3530
NQ 3540 GOTO 100
RO 3999 REM  LOAD IN FILE  4000 >>>
XC 4000 GOSUB SCRN:POSITION 2,0:? "ok let
   s load up":LN=4000:TRAP 900
MQ 4010 B$="LOADING FROM":GOSUB FNAM:OPEN
    #1,4,128,FILE$:F=7:GOSUB INOUT:GOTO 1
   00
GF 4999 REM  MAKE & SAVE FILE  5000 >>>
SX 5000 GOSUB SCRN:POSITION 1,0:? "making
    a new file":POSITION 0,6:? "This opti
   on allows you to create a file"
FK 5010 ? "of 25 records to be saved on d
   isk/tape":POSITION 3,10:? "DO YOU WANT
    TO CONTINUE [Y/N]?"
LG 5020 GET #3,KEY:IF KEY<>78 AND KEY<>89
    THEN 5020
RY 5030 IF KEY=78 THEN 100
BQ 5040 SEN$(1)=" ":SEN$(NS*LS)=" ":SEN$(
   2)=SEN$:R$=SEN$:W$=SEN$:? CHR$(125);"R
   ECORD NUMBER: "
RG 5050 ? "MAXIMUM SENTENCE LENGTH: 39 LE
   TTERS     MAXIMUM WORD LENGTH: 12 LETT
   ERS":FOR Y=3 TO 14 STEP 11
FH 5060 FOR X=20 TO 39:POSITION X,Y:? CHR
   $(131);:NEXT X:NEXT Y:FOR N=1 TO NS:PO
   SITION 15,0:? N
VK 5080 POSITION 0,16:? "[1] INPUT A SENT
   ENCE ABOUT THE WORD:":? :INPUT #16;A$:
   IF A$="" THEN 5080
GY 5090 POSITION 0,6:? A$:GOSUB BLNK
LN 5100 ? "[2] NOW INPUT THE CORRECT SPEL
   LING:   ":? :INPUT #16;B$:IF B$="" THE
   N 5090
BL 5110 POSITION 0,9:? "RIGHT SPELLING: "
   ;B$:GOSUB BLNK
CM 5120 ? "[3] NEXT INPUT AN INCORRECT SP
   ELLING: ":? :INPUT #16;C$:IF C$="" THE
   N 5110
JH 5130 POSITION 0,12:? "WRONG SPELLING:
   ";C$:GOSUB BLNK:? "ARE YOU HAPPY WITH
   RECORD NO. ";N;" [Y/N]?"
QY 5140 GET #3,KEY:IF KEY<>78 AND KEY<>89
```

continued ☛

DISK BONUS



AMNESIA

by Robert Stuart

Try this superb 'Concentration' type program that will test your powers to the limit. This is one of the finest versions of this type of program ever seen on the Atari with some superb animated graphics and excellent music.

Straightforward to play, lovely to watch

Great Graphics ...
Great Music ...
Great Challenge ...

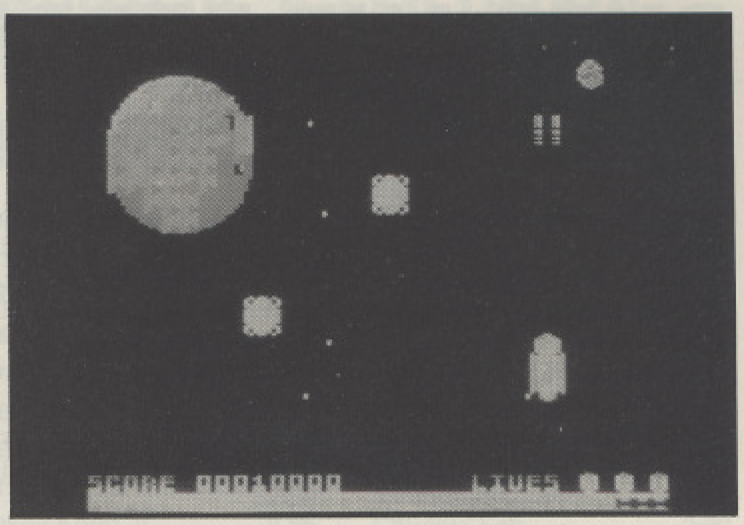
The Issue 49 Disk contains this BONUS program as well as all the program listings from this Issue all ready to run. Disk subscribers will have already received their disk but it is available separately for just £2.95. Treat yourself to one. Available from PAGE 6, P.O. BOX 54, STAFFORD, ST16 1DR by post or by telephoning 0785 213928 and using your credit card

SPELLBETTER

```
   THEN 5140
TP 5150 GOSUB BLNK:FOR Y=6 TO 12 STEP 3:P
   OSITION 0,Y:? BL$:NEXT Y:POSITION 0,16
   :? BL$
FQ 5160 IF KEY=78 THEN FOR D=1 TO 25:SOUN
   D 0,50,10,12:NEXT D:SOUND 0,0,0,0:GOTO
    5080
FN 5170 GOSUB DAT:FOR D=1 TO 15:SOUND 0,2
   0,10,12:NEXT D:SOUND 0,0,0,0:NEXT N
HU 5180 ? CHR$(125);:GOSUB BRK:? "ok lets
    save them"
XZ 5190 B$="SAVING ON":LN=5180:TRAP 900:G
   OSUB FNAM:OPEN #1,8,128,FILE$:F=11:GOS
   UB INOUT:GOTO 90
QR 5999 REM  END THE PROGRAM  6000 >>>
EH 6000 GRAPHICS 0:POKE 82,2:POKE 752,0:E
   ND
CB 9000 REM --------------------------
AL 9010 DATA I PAY MY ____ ON THE BUS EVE
   RY DAY.,FARE,FAIR
DU 9020 DATA THE BOY ______ THE BALL.,THR
   EW,THROUGH
IS 9030 DATA WOULD YOU LIKE A _____ OF CH
   OCOLATE?,PIECE,PEACE
VI 9040 DATA _____ ARE 12 MONTHS IN A YEA
   R.,THERE,THEIR
XU 9050 DATA THE THIEF TRIED TO _____ THE
    BAG.,STEAL,STEEL
FW 9060 DATA THE PUPPY WAGGED HIS ____.,T
   AIL,TALE
VU 9070 DATA ARE YOU _____ TO STAY UP LAT
   E?,ALLOWED,ALOUD
FR 9080 DATA THE SUN SHONE IN THE ____ SK
   Y.,BLUE,BLEW
```

```
RR 9090 DATA I HAVE ONLY ___ SWEET LEFT.,
   ONE,WON
XZ 9100 DATA HE PICKED A _____ IN THE GAR
   DEN.,FLOWER,FLOUR
BO 9110 DATA THE WEATHER IS ____ COLD IN
   WINTER.,QUITE,QUIET
PI 9120 DATA MY TEACHER _____ ME HOW TO R
   EAD.,TAUGHT,THOUGHT
CV 9130 DATA THE POLICE CAME TO THE ____
   .,SCENE,SEEN
FT 9140 DATA DID YOU ___ THE BUTTON ON TH
   E COAT?,SEW,SOW
SK 9150 DATA THIS IS MY _____ HAND.,RIGHT
   ,WRITE
LU 9160 DATA CAN YOU ___ THE DOORBELL RIN
   GING?,HEAR,HERE
WR 9170 DATA WE DUG A _____ IN THE GROUND
   .,HOLE,WHOLE
YZ 9180 DATA WE ALL HAD _____ FUN AT THE
   PARTY.,GREAT,GRATE
HA 9190 DATA SHE WAS AN ___ LATE FOR SCHO
   OL.,HOUR,OUR
UP 9200 DATA I GOT A  ____ BIKE FOR CHRIS
   TMAS.,NEW,KNEW
VX 9210 DATA THE TREE HAS _____ VERY TALL
   .,GROWN,GROAN
TJ 9220 DATA THAT BRIDGE IS MADE OF _____
    .,STEEL,STEAL
QM 9230 DATA THE VULTURE IS A BIRD OF ___
   _ .,PREY,PRAY
FR 9240 DATA SHE PUT A RED ____ IN THE VA
   SE.,ROSE,ROWS
GE 9250 DATA WE BOUGHT NEW _____ IN THE S
   HOP.,CLOTHES,CLOSE
```

SPEED ZONE



If you're a shoot 'em up fanatic, SPEED ZONE is going to go down a treat. It's a no nonsense, dodge 'em and blast 'em vertical scroller of the traditional variety - no gimmicks, no frills, just 100% fast-paced action!

According to Mastertronic, a region of space known as the Sarek-Kholinor Anomaly, or 'Speedzone' for short, is an area notorious for mysterious disappearances - a sort of Bermuda Triangle in space. A survey ship has been despatched on a mission to investigate the problem, but no sooner does it enter the Speedzone than an ominous blip appears on the long range scanners. Visual confirmation reveals an enemy vessel, bursting with armaments. Then more, and more ... Without delay, the survey ship's defensive Starfire attack craft is launched, and guess who's in the cockpit?! Trigger finger at the ready ... The battle is on!

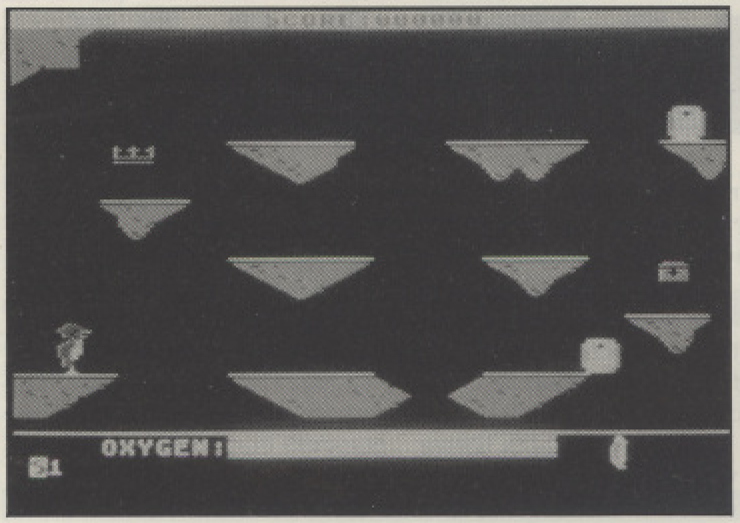
As you'd expect, the purpose of your mission is simply to blast the ever-persistent waves of incoming nasties. They arrive on screen from all angles before lining up in formation and invariably swooping menacingly towards you. You can move the vessel to all areas of the playfield but can only shoot upwards. If you fail to avoid collision with an alien your energy level, denoted by a bar at the base of the screen, is considerably reduced. If you run out of energy altogether you lose a life, but fortunately there are two held in reserve. This 'double buffered' lives technique adds a great deal to the playability rating of Speedzone.

The graphics are quite well done, although they could be a lot better. The background consists of a fairly simple scrolling starscape and a small topical symbol, which changes after each stage. On the first level it's a planet (or a Pancake?) and subsequent symbols include a 'Dr. Who' Police Box and a Satellite. The design of aliens and the Starfire ship is rather a visual disappointment, especially when compared with screen shots of the Spectrash version on the inlay. It's a pity that programmers of 8-bit conversions always seem to ignore the Atari's superior capabilities. Sound effects aren't exactly overflowing in abundance but at least they're of a reasonable quality.

If you're looking for another good shoot 'em up to add to your collection, SPEED ZONE should be high on the list of possibilities. Minor gripes aside, this is one of Mastertronic's better efforts.

Title: **SPEED ZONE**
Publisher: **Mastertronic**
Price: **£1.99 cassette**
Players: **1**
Loading: **5'15"**
Reviewed by Paul Rixon

WINTER WALLY



Percy the Penguin has a peculiar problem! Whilst out for his regular morning stroll, he accidentally falls through a hole in the ice and becomes trapped in an underground maze of freezing caverns. He desperately needs your help to escape from the dangers of deep crevasses, low-flying ice blocks and moving icebergs.

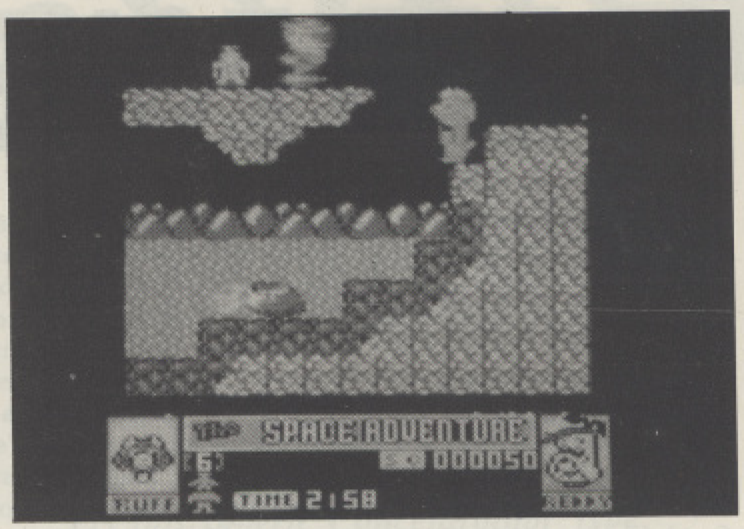
In case you hadn't guessed, WINTER WALLY is a platform game based on Penguin Percy's exploits to avoid an icy fate. The quest is divided into a series of individual screens and the objective on each is simply to work out the best (and usually the only) way to negotiate the obstacles with a combination of waddles, bounds and jumps. The hazards require a pixel-perfect jumping ability, an accurate sense of timing and in particular a good measure of perseverance. There's a time limit on each screen so you have to be quick too, although you can freeze the action if you want to take a break. Some of the ideas are quite original but the problems are easily solved by trial and error - especially since an undocumented feature allows you to Select (hint) the starting level from the title page. At first the game seems quite addictive but the big disappointment comes when you complete the ninth screen and simply get transported straight back to the beginning again. There's no endgame sequence and no increase in difficulty on the second cycle - so no incentive to play again.

The author of Winter Wally - Steve Macilwee - was also responsible for Monkey Magic, a game reviewed in the last issue and also published by Alternative Software. Both products share the common characteristic of being good ideas that appear to have suffered through a rushed implementation. As far as the graphics are concerned, Winter Wally isn't exactly a masterpiece of visual engineering but its clear and colourful screen designs are no worse than dozens of other budget games I could mention. The sound, likewise, is basic but adequate.

It's a shame that Winter Wally wasn't developed into a comprehensive platform game. As it stands, the game will only appeal to those players who don't expect to progress beyond the ninth screen for a long while to come. If you're the sort of person who can solve Bounty Bob Strikes Back without resorting to cheat codes, I'm afraid this one's not going to challenge you at all.

Title: **WINTER WALLY**
Publisher: **Alternative**
Price: **£1.99 cassette**
Players: **1**
Loading: **5'10"**
Reviewed by Paul Rixon

RUFF AND REDDY



RUFF AND REDDY IN THE SPACE ADVENTURE is one of a new series of games from Hi Tec based on famous Hanna-Barbera cartoon characters. With original 8-bit material in such short supply, Hi Tec deserve a lot of appreciation for their continuing Atari support.

The space adventure begins when Ruff and Reddy agree to test Professor Flipnoodles Pocket Rocket. At blast off something goes terribly wrong and the rocket spins wildly out of control, eventually crash-landing on a distant planet inhabited by small blue aliens called 'Lilli-Punies'.

These turn out to be anything but friendly and tell Ruff that he won't see Reddy again unless he can rescue all the Lilli-Punies who've gone astray whilst exploring their planet. Without much of a choice, Ruff embarks on the hazardous search to help free his friend.

The game is a multi-screen arcade adventure set over four areas of the alien planet. Each level includes puzzles to solve and varying amounts of aliens to collect. There are also bonus objects to watch out for but the important thing is to find all the Lilli-Punies before the count-down timer hits zero. Naturally there are plenty of obstacles too and you need to figure out a way of negotiating these without making contact. You only have three lives in reserve and when these are gone, you're forced to re-start from the very beginning. The first level is reasonably easy after a bit of experimentation but the subsequent stages become increasingly more complex.

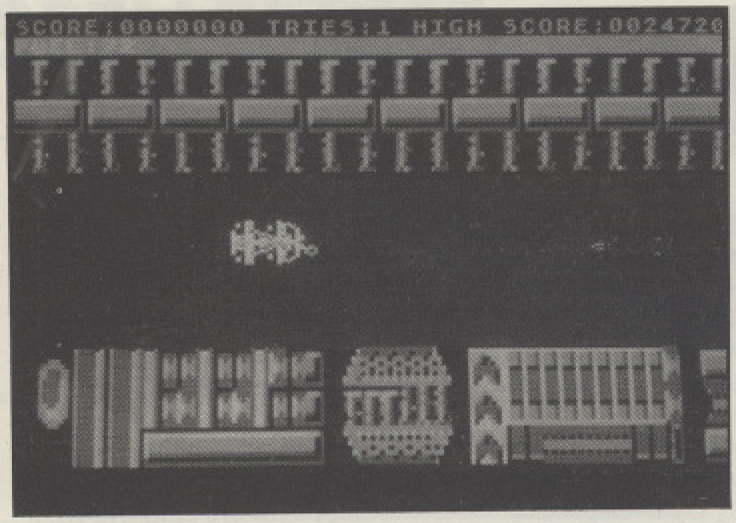
Although the graphics are generally very good, they're not a patch on the Crummydore screen shots shown on the cassette inlay - as we all know, there can be no explanation for this other than a lack of programming effort. On the plus side, the joystick response is excellent and page flipping between screens is very fast - as of course it should be! It's also very pleasant to encounter some music and sound effects of the high standard that has been sadly lacking from many recent budget offerings.

Ruff and Reddy is a hugely addictive, fun and well implemented arcade adventure of the sort that hasn't been seen for far too long. Next issue, we'll take a look at another release in the series, Yogi's Great Escape. Keep an eye open for Hong Kong Phooey and Atom Ant - both are said to be coming soon for your Atari.

Title:	**RUFF AND REDDY**
Publisher:	**Hi Tec**
Price:	**£2.99 cassette**
Players:	**1**
Loading:	**14'30"**

Reviewed by Paul Rixon

MAD JAX



Another in the series of Red Rat Software re-releases from Byte Back. This particular one was due to be called Death Racers but Atlantis Software pipped Red Rat to the post with a similarly titled package, so it had to be re-named.

MAD JAX is described on the cassette inlay as an 'adrenaline pumping, heart stopping, hard driving, baddie stomping shoot-em-up', but don't get too excited or you could be in for a disappointment. The story explains that the earth has finally succumbed to man's destructive influence and the remaining humans have been forced to set up domed cities to escape the surrounding radiation. These are now being attacked by a mysterious aggressor and you've been asked to go and put a stop to the nonsense.

The game could be described as a horizontal version of Spy Hunter - your objective is to steer a vehicle through a constantly scrolling landscape whilst avoiding or eliminating the inevitable motor maniacs you meet en route. Unfortunately, in addition to travelling at the speed of a learner combine harvester driver on a particularly icy day, your vehicle has the considerable disability of a fuel consumption to match - and that's assuming a very leaky fuel tank! It's therefore vitally important to keep an eye open for extra supplies and to be especially careful not to mistakenly destroy them. Additional lives and weapons can be obtained similarly by driving over the corresponding symbols. At first you're armed with a sluggish front-facing cannon but it can later be upgraded to provide rapid-fire in two directions.

Towards the end of each stage the vehicle enters a twisty 'city' section where the aim is to dodge a series of moving barriers - there are no adversaries here but no fuel supplies either, so if you forget to fill up in advance then you're heading for disaster! Succeed in reaching the base at the end of a stage and you move onto another where the nasties become a little more vicious. The scenery, however, remains almost identical - the graphics and sound in general leave considerable scope for improvement.

Mad Jax is by no means a bad game but it's not as appealing as some of Red Rat's better known releases. It starts off rather slowly but gets more interesting in the higher levels, so perseverance is the key to getting your money's worth of enjoyment.

:-

Title:	**MAD JAX**
Publisher:	**Byte Back**
Price:	**£2.99 cassette**
Players:	**1**
Loading:	**15'30"**

Reviewed by Paul Rixon

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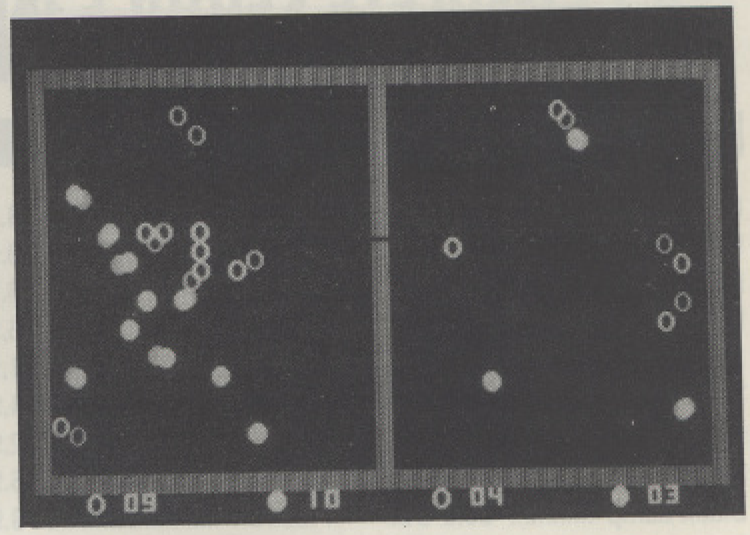
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MAXWELL'S DEMON



One of the unexpected side-effects of the decline in commercial 8-bit support is the improved availability of software that might have otherwise been forgotten in the mists of time. MAXWELL'S DEMON and MEMORY MANIA were released as one package by US company Gentry Software in 1983, both games having previously appeared on the Datasoft label. It's one of several titles that have recently become available in the UK at greatly reduced prices.

The concept behind Maxwell's Demon couldn't be simpler. It consists of a blank screen with a solid border and a central vertical division. Bouncing around the screen at high speed are a number of solid and outline circles, representing hydrogen and helium molecules. The purpose of the exercise is to separate the two molecule types into their respective halves of the screen, by first positioning and then opening a 'Demon Gate' in the central division so that molecules of one element can pass through to the other side. Obviously, you have to be careful not to allow the wrong type through. In case you're wondering why anyone should want to separate helium and hydrogen molecules, the answer is that Maxwell's Second Law says it can be done (although it doesn't say it's easy!) and this is your chance to prove it. And doesn't it make a relaxing change from zapping aliens?

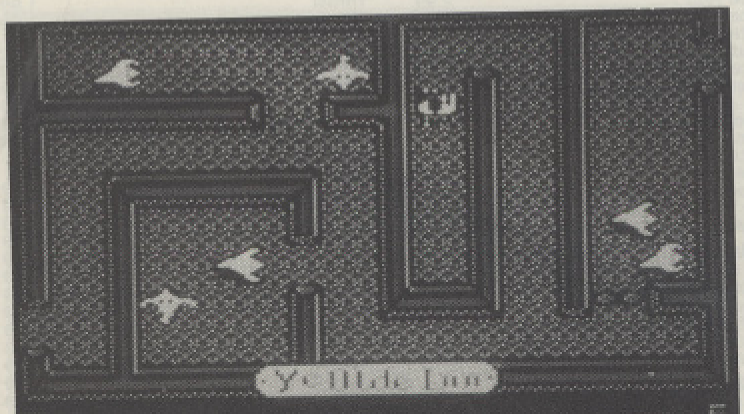
Memory Mania is based on the popular sliding-tile picture puzzles. There are a number of pictures stored on disk and having selected one you can choose the number of pieces you'd like it broken into. Hit the button and Hey Presto! - all the bits get thoroughly scrambled up, leaving you to sort out the muddle by manoeuvring the segments into their original locations. If you get stuck you can call up the completed view or if it's getting late (isn't it always?) a partially solved puzzle can be saved to disk for continuation at a later date.

Both Maxwell's Demon and Memory Mania use high resolution graphics and the technique known as 'artifacting' to achieve extra colour. This trick isn't too successful on the British PAL TV system and the result is a stripy black-and-white display, but it doesn't really detract from gameplay. Both games are extremely straightforward, but in terms of addictiveness and lasting appeal they have got to be recommended. Mind you don't get hooked!

Title:	**MAXWELL'S DEMO**
Publisher:	**Gentry Software**
Price:	**£4.95 disk**
Players:	**1**
Loading:	**N/A**

Reviewed by Paul Rixon

FOUR GREAT GAMES 3



Not one, not two, but FOUR GREAT GAMES from Tynesoft. Well, that's the claim on the packaging anyway - predictably, some of the games turn out to be greater than others!

PHANTOM is unquestionably the highlight of this compilation. The game is set in a series of buildings which are viewed from overhead to reveal a maze of rooms and passages. As a professor of astrophysics specialising in psychic phenomena, your mission is to battle through hoards of ghoulish inhabitants to reach a transporter in the basement. You can zap the apparitions with a blast from your 'nuclear accelerator' but isotope power re-fills are few and far between. Alien contact results in the rapid increase of your ECG rate - if it exceeds 99 you become a ghost yourself! The tendency of nasties to suddenly appear where you can't avoid them is a trifle annoying, but excellent music and graphics compensate for the loss in playability.

For those who'd prefer something more traditional, REBOUND is an original adaptation of the old VCS favourite Tennis. The basic idea is to keep a ball bouncing backwards and forwards between two players who are each equipped with a joystick-operated bat. The unique feature of Rebound is that the screen is split into two halves, giving each player an end-on 3-D perspective viewpoint. The court is bordered by humorously animated spectators and the intro screen accompanied by a super tune by Richard Munns, whose previous work has featured in several Red Rat titles.

In COUNTDOWN you're enrolled to help Commander Zak dodge radioactive particles as he attempts to collect the necessary tools to disarm a deadly bomb. At first the task seems a doddle but on higher levels there are roaming nasties, hidden tools and several other distractions. The fourth game, CANNIBALS, was first released in 1983 by Birmingham-based Calisto Computers. It's a ladders and levels game similar to Broderbund's Apple Panic, which was recently cloned by Atlantis. Your job is to guide 'Arthur' around the platforms, dig holes to trap the pursuing nasties and wait in readiness to whack them over the head with a shovel. Despite the game's age, the graphics are surprisingly good!

Four Great Games? Well, not quite, but certainly a great value-for-money package at under a pound for each title. If you don't have Phantom or Rebound, this compilation is a must!

Title:	**FOUR GREAT GAMES 3**
Publisher:	**Microvalue**
Price:	**£3.99 cassette**
Players:	**1/2**
Loading:	**11'45" (max)**

Reviewed by Paul Rixon

contact ... contact ... contact ... contact

FOR SALE

MAGS & BITS: PAGE 6 mags 3 to 20 and 22 to 35, Atari User (not ST) Vol.1 No. 4 to Vol. 4 No. 7 '12 per vol.'. Parallel interface, 8-bit Atari to printer. Reasonable offers. Phone Stoke-On-Trent 0782 312662

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8-BIT BARGAINS: 1050 disk drive, immaculate, Disks/DOS, £95. CX85 plug-in keypad and Bookkeeper Accounts disk system, excellent, £30. Atari lightpen, stylus, graphics ROM, manuals etc. £25. Microsoft Basic, £10. Assembler and manual £10. Plus more. Details Tel. 0743 249094

BOOKS & SOFTWARE: Sound & Graphics, 130XE Machine Code books, £10. Rare wargames (cost £35+ each), Kampgruppe, Sons of Liberty, Battle of Shiloh etc. £20 each. Paperclip, Text Wizard, Synfile, XLent word processors and databases plus disk games, £4, Cassettes, £1.50 (originals only). Details 0743 249094

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GAMES: Compendium of 20 games and utilities, commercial titles. All formats. XL/XE software including Nato Commander, Turbo Basic and Draconus. All boxed with instructions. £35, no splits. Phone Richard 081 570 0639 after 6pm.

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800 SYSTEM: Atari 800 (48k), 410 program recorder, 850 interface, 1050 disk drive, Basic, Assembler Editor and AtariWriter cartridges. DOS and Microbasic disks. 2 Suncom Slik Stick joysticks, many books and magazines and oddments. Offers over £150. Colour Monitor (£100) and Smith Corona quality printer (£200) also available. Reduction for whole package. Write to Mr. E. Rice, 68 Vernon Drive, Stanmore, Middx., HA7 2BT. Phone 081 427 3034.

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MAGAZINES: Good home wanted for PAGE 6 Nos 1 - 43 and Atari User Vol.1 No. 1 to Vol. 3 No. 3 with binders. All free to first one who collects. Ring 061 483 2490

XE SYSTEM: 65XE, XC12 fitted with Rambit, £350 worth of software, 3 joysticks, trackball, 1020 printer, magazines and some spares. Everything boxed. £160. Mr. D. Woods, 24, Beagleswood Road, Pembury, Kent, TN2 4HX. Phone 089992824708 (evenings)

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MAGAZINES: PAGE 6 Nos. 7, 10, 12 - 23, 29 - 36; Monitor Nos. 6, 8 - 14; Atari User first 20 issues. Tel. 0272 620640

ST SYSTEM: 520ST computer and mouse with Panasonic KX-3131 daisy wheel printer, Cumana second drive, SAGE Accountant business program (worth £100), 17 fully boxed games. All in immaculate condition. Offers £375 o.n.o. Tel. Cannock (0543) 505644

XE SYSTEM: 65XE pack with XC12 datacorder, 2 joysticks, £60 worth of games and loads of (old) mags. £65. Tel. 0666 503712

XL SYSTEM: 800XL, 1050 disk drive, 1027 printer, all boxed, Visicalc, joystick, 4 ROM games, various disks, books etc. £175. Tel. Steve James on 051 334 5552 after 6 pm.

XE COMPUTER: 65XE with XC12 datacorder and two joysticks. Over £100 worth of games. In excellent condition with original boxes. Offers around £100 please. Ring Northampton (0604) 862181 or write to Tom Dickerson, 61, Stoke Road, Ashton, Northants, NN7 2JN

MAGAZINES: PAGE 6 No. 2 (Feb. 83), Antic Vol. 4 No. 2 (Jun 85) - Offers? Atari Trakball - £7, First XLent Word Processor - £15. Prices inc. P&P. Write to Paul, 17, Spring Road, Clifton, Shefford, Beds. SG17 5RE

1029 PRINTER: Boxed, complete with all cables, manual, original free software (Atariwriter on disk and screen dump) extra software written by me, five spare ribbons, AtariWriter manual printed out. Excellent condition, £50. Phone 0295 721408

XE SYSTEM: 130XE, 1050 disk drive, XC12 tape deck, software on disk, tape and ROM, few copies of New Atari User, joystick. Quick sale needed. £199 o.n.o. Buyer collects or pays postage. Phone Wolverhampton (0902) 745752

XL SYSTEM: 800XL, 1050 drive, 850 interface, 1010 recorder, joysticks etc. PAGE 6 Issue disks from 23 to date, Mini Office II and many commercial and PD disks and cassettes, too many to list, all with supporting instructions. £299 o.n.o. Will deliver in Southern England. Ring 0903 776942 after 6.30 pm. (Sussex)

XL SYSTEM: 800XL with XF551 disk drive, TAC 2 joystick, XC12 tape deck plus 80 good games on tape and disk, 30 magazines and loads of listings on disk. Worth £500. Bargain at £220. Will split. Phone Paul on (0734) 861302

ST SYSTEM: 1040STFM 1Mb RAM, 1Mb disk, modulator, manuals, mouse, joysticks, £300 worth of software, word processors, DTP, graphics, games, magazines. Excellent. £320 everything. 9 pin printer extra. Tel. 081 777 2573

XE SYSTEM: 130XE, 1050 disk drive with Archiver chip and joystick, all boxed. Approx. 240 disks and Basic B cartridge. £210 o.n.o. Taritalk, £10. Phone 051 648 4926 (Merseyside)

XE SYSTEM: 130XE and 810 disk drive and software etc. £150 o.n.o. 800XL (not working) plus 1010 and tapes, £40. Tel. 081 518 4485 (Ilford, London)

DISK DRIVE: Anyone interested in an Atari SF354 drive (for ST, no manual), it doesn't work on my XL. Will swap for 1050 drive and I will add £20 but you can buy it for £20. Write to Arnold Bontsema, Wibenaheerd 366, 9736 ND, Groningen, Holland

MAGAZINES: ST World (formerly ST User) mags for sale. Complete set from Issue 1 to Issue 36. All mags in mint condition. Any offers? Tel. John on Barnsley (0226) 767685, evenings please.

WANTED

1029 PRINTER GUIDE: Owners guide for 1029 wanted. Phone Alan, Northampton (0604) 710268 anytime

CASSETTE: XC12 data cassette, must be in perfect order and clean. Please ring 0752 709281 evenings

MORE OVERLEAF ☛

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

AMAZING MAZES revisited

We forgot to include the diagrams which should have accompanied John Sweeny's article in the last issue, so here they are.

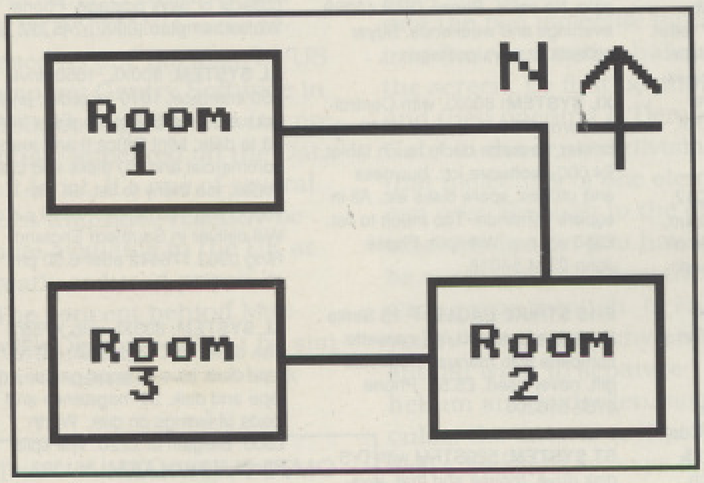


Figure 1

	N	S	E	W	NW	NE	SW	SE	U	D
1 STONE	1	3	5	3	4	2	1	3	2	
2 ROPE		2		2		3	4	5		
3 KEY	2	3	5		1					
4 BOTTLE			3		3	1		2		1
5 SWORD		3			4					

Figure 2

Sorry about that, John, and our apologies to all those who may have been confused.

contact extra... contact extra ...

WANTED

DISK DRIVE: 1050 with Transdisk IV and DOS 2.5 for £30 (I am a kid getting £5 a week). For more detail phone 0702 75201 and ask for Yasser

AMATEUR RADIO: Can anyone supply a 'Packet' program for the G0BSX terminal T.N.C. Please ring Harry on 0787 473136

DTP WANTED: Printshop plus Companion, Page Marshall or Newstation preferred. Phone or write Ken Law, 3, Guithavon Valley, Witham, Essex

DISK DRIVE: 1050 disk drive, must be in good condition with leads and manuals. Will pay £60 (max) and postal expenses. Phone Richard on Eire (0902) 78679 (evenings) or write to 26 Auburn Heights, Athlone, Co. Westmeath, Eire

GERMAN LANGUAGE: Please can anyone help me? I am a GCSE student studying German and urgently need to get hold of the 'Conversational German Language' program produced by Longman or any other equivalent German LANGUAGE programs and accompanying literature suitable for the 65XE. I will pay a fair price. Phone 0782 516200

XL WANTED: 800XL with cassette recorder. I am disabled and look forward to spending many happy hours with same. I have a games system. Reasonable price please. Phone 07683 51861 or write to Jean Circuit, 12 Belgravia, Long Marton Road, Appleby, Cumbria CA16 6XZ

DISK DRIVE: 1050 wanted in good working order with manuals and leads. Will pay up to £50. write to Simon Pennington, Shan-Gri-La, Green Lane, Barrow upon Humber, S. Humberside DN19 7BP

CIRCUIT DIAGRAMS: Circuit diagrams wanted for 810 disk drive for aid in fault diagnosis. Would be most grateful and prepared to pay. Cpl K.R. Bell, 43 SQN DET. Operation Granby, BFPO 641

ATARIWRITER: On ROM wanted. Tel. Basil 0348 873480

SOFTWARE: 8-bit software wanted - Sea Dragon, Ultima 1, De-Luxe Invaders, Choplifter, Bandits. Must be in good condition and in original packaging. Good prices paid for each. Tel. Stuart on (0358) 42744

DISK DRIVE: Suitable for use with 800XL. Preferably W. Mids. area. All reasonable prices considered. Tel. Wolverhampton (0902) 735160 ask for Mark

PENPALS/HELP

TRI-LINGUAL PENPAL: I would like to hear from any 8-bit or ST user in the world who can write in Spanish or Italian (English too of course!). So c'mon boys and girls start writing! All letters answered. Contact Carlos D'Ercole, 14, Gass Street, Whyalla Norrie, 5608, South Australia

USER GROUP: I have started a user group for cassette users. If you are interested then please send a self addressed envelope to Leeds Cassette Users Group, 14 Hollin Hill Avenue, Leeds, LS8 2PP

XL/XE PENPALS: I have a 65XE, 1050 drive and XC12 tape deck. I have 20+ cassette games and lots of games and programs on disk and would like to swap hints, games etc. Write to John Cooper, 210, Langer Lane, Chesterfield, Derbyshire

AUSTRALIAN PENPAL: 24 year old user seeks UK & US Atari 8-bit penpals with drive for chat, swap etc. Interests - Atari, Guitar, Dr. Who, Adam Ant, Electronics. Write to John Stecyk, 51 Mayston Street, East Hawthorn, Vic. 3123, Australia

PENPAL: I'm a 12 year old 600XL, 800XL and tape user. I would like to swap hints, tips etc. Anyone interested write to John Hubbock, 38 Conifer Close, Walton, Liverpool, L9 1JW

XL/XE PENPALS: I have two 800XLs (one with 256k), a 1050 drive with US Doubler and a 1029 printer. For the games player I have loads and loads of hints, tips and maps and for the more serious user I have loadsa utilities (especially for disk drives with upgrades). I have my own upgraded version of the superb Digital Editor, it works better than the original. Contact Daniel Nye, 22, Winchester Road, Bury St. Edmunds, Suffolk IP33 3QT. Tel. 0284 760658

SUSPECT: Clues wanted for Infocom's Suspect. I have plenty of evidence but can't convince the detective! Please contact Clive Moon, 7 Orchard Avenue, Lancing, West Sussex, BN15 9EA

CONTACTS WANTED: I have an 800XL and 1050 drive and would like to hear from anyone interested is swapping hints, tips, ideas etc. All letters answered. Write to James Schofield, 21 Dulverton Gardens, Cottingley, Leeds LS11 0LF

HELPLINE: Still going strong. Drop me a line anytime. Now with newsletter. I've loads of tips, cheats and maps. Let's all do our bit to keep the XL/XE alive. Write to 138, Townsfield Road, Westhoughton, BL5 2NT. Tel. 840725 ask for Dean

PENPALS: I have an 800XL, 1050 drives plus 1029 printer. I would like to hear from anyone interested in swapping hints, tips etc. All letters answered. Write to Ray Robertson, 19, Littlebury Green, Basildon, Essex, England. SS13 1PA

CONTACT is FREE of charge and may be used by any genuine Atari enthusiast for contacting other owners. Any notice may be included except those offering software only for sale or exchange or those offering items for sale commercially. The Editor reserves the right to omit any notice received at his discretion.

Send your CONTACT notice to CONTACT, PAGE 6, P.O. Box 54, Stafford, ST16 1DR. Please write your notice on a separate sheet of paper, not as part of a letter.

FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP ...

THE ACCESSORY SHOP
ISSUE 49

SERIOUS SOFTWARE

This issue we have managed to discover some more software that will enable you to use your XL/XE for more serious applications. There are a number of word processors for you to choose from, in fact word processors from the most simple to the most complex - the choice is yours. Also there are a couple of good comms packages for either the beginner or more advanced comms buff together with one or two more educational titles. As always we are able to offer these items at considerably less than the recommended price.



DISK ONLY

ATARIWRITER PLUS

Perhaps one of the most well known word processors for the Atari, this disk version comes complete with a built in spell checker and will also access the extra memory of the 130XE. Provides 80 column editing, prints in multiple columns, accesses the International character set and much more. There is a custom Printer Driver creator enabling any printer to be used fully. Atariwriter Plus is a very powerful word processor combining virtually every feature you could require with ease of use.

Original Price £29.95

OUR PRICE £9.95

LETTER WIZARD

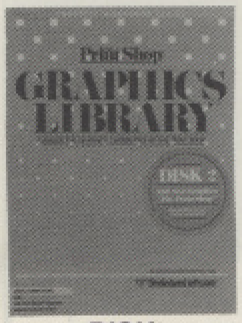
For those who need a little more sophistication in a word processor, Letter Wizard gives you all of the basic features you would expect plus mail merge, print of selected pages, headers and footers, automatic page numbering and a whole host more print formatting styles. Although set up for Epson compatible printers or the NEC 8023, control codes can be sent direct to the printer. Comes with an easy to learn and use manual plus a handy Quick Reference card.

Original Price £19.95

OUR PRICE £8.95



DISK ONLY



DISK ONLY

PRINT SHOP GRAPHICS

The official PRINT SHOP Graphics Library comprises three separate disks each with 120 graphics and a printed out reference guide of the new icons. Disk 1 covers Holidays, Special Occasions, Sports and more, Disk 2 includes Jobs, People, Places, Hobbies and lots more whilst Disk 3 covers Business, Symbols, Mythology and others. These are all top quality graphics in the original Broderbund Print Shop packaging.

Original Price £12.99 each

OUR PRICE £4.95 each

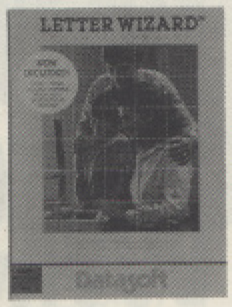
SPECIAL - BUY ALL THREE FOR JUST £11.95!

LETTER WIZARD
WITH SPELL WIZARD

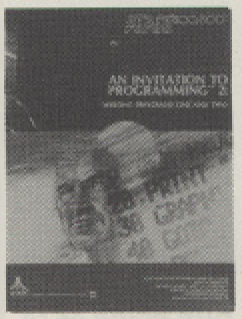
All the features of Letter Wizard outlined above but complete with a 33,000 word dictionary and the ability to create your own special dictionaries by adding unrecognised words. Now your word processing can take on a new dimension. Only limited quantities are available with Spell Wizard so please indicate if you will accept Letter Wizard only in the event of this being sold out (difference in price will be refunded).

Original Price £29.95

OUR PRICE £9.95



DISK ONLY



CASSETTES

INVITATION TO PROGRAMMING
THREE PACKAGE OFFER!

Cassette users wishing to learn Basic programming have never had it so easy! Alongside the fine programming books we have available, we are now able to offer the full three part Invitation To Programming series comprising FIVE cassettes and two workbooks. The series covers Fundamentals, Writing Your Own Programs and an Introduction to Sound and Graphics. With these actual, on-screen, examples your programming books will come alive and you will be writing your own programs in no time. Start to program now at our bargain price!

Original Price £32.97

OUR PRICE £5.00

TEXT WIZARD

If you don't need a very powerful word processor but still want to use your Atari to help with producing written documents Text Wizard could be the answer. A simple to use and easy to learn word processor that has the basic features such as search and replace, move and duplicate text and straightforward print formatting including double column print out. The print commands are set for Epson compatible printers. Text Wizard will get you printing without getting you confused.

Original Price £29.95

OUR PRICE £7.95



DISK ONLY



ROM CARTRIDGE

TELELINK

The simplest to use comms package ever available, just plug it in and go! Telelink is a basic, no frills, communications program that will have you up and running in no time. Ideal for simple access of your local Bulletin Board or for access to the major International Information Services. Optional dump of buffer to a printer. The most basic of facilities but the simplest and quickest to use comms program available.

Original Price £14.95

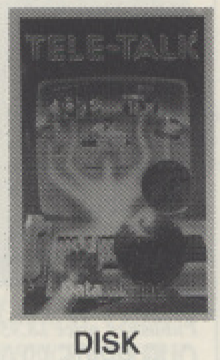
OUR PRICE £4.00

TELETALK

An excellent telecommunications package that has not been available for some time. This was one of the first full-featured comms packages and, in fact, saw sterling service with PAGE 6 in sending all of the typesetting for early issues over a modem to the typesetters. We can certainly vouch that this works well! All the features you could want from a comms package plus a few you might not have thought of.

Original Price £14.95

OUR PRICE £6.95



DISK ONLY

TIME and MAGIK



Three of Level 9's famous adventures in one package. This includes LORDS OF TIME, RED MOON and THE PRICE OF MAGIK to give you many hours of puzzle solving and exploration of the unique worlds created by Level 9. All these games have received top reviews. Now you can try them at a very special price

DISK ONLY

Originally £11.95

OUR PRICE £5.95

BASIC COMPILER



Compile your Basic programs into 6502 machine code! Unlike other compilers which require a separate run-time program the Datasoft Basic Compiler creates stand alone programs in machine code with the added benefit of also creating assembler files that can be used with other Assembler programs. Could be an ideal way to learn Assembler, just write a routine in Basic, compile it and study the same routine in Assembler!

Original Price £29.95

OUR PRICE £4.95

DISK ONLY

PAINT



An excellent painting program that was recommended for children as well as adults when released. Very easy to use with all the features you might need from an art package together with a very good manual that goes on to explain the relationship between art and computers. Excellent for children and of equal value for adults. Be creative!

DISK ONLY

Original Price £16.95

OUR PRICE £5.95

TAIL OF BETA LYRAE

Our A-Z of Atari Software series says "The ultimate 'Scramble' clone with superb graphics and music. This humdinger of a horizontally scrolling shoot 'em up was written by Philip Price, and the music was by Gary Gilbertson. They later went on to write the 'Alternate Reality' games." This is one of the few original 'classics' right up there with the top arcade games of all time. Give your eyes, ears and reactions an unforgettable treat!

Original Price £7.95

OUR PRICE £1.50 Cassette
£3.00 Disk



DISK or CASSETTE

BARGAIN BOOKS

Books for the Atari 8-bit computers are now becoming very difficult to obtain with almost all the Compute! titles now out of print so we are very pleased to have been able to secure a supply of some of the early British books covering the XL/XE range. Don't be put off by the low prices, we are only passing along the enormous savings we have been able to obtain. All these books are brand new and most are shrink wrapped so you will find them of top quality. If you are interested in programming with your Atari almost all of these books will help in some way and at these prices you can afford to experiment!

Please note that because of the high cost of posting books orders will only be accepted if the £1.00 postage charge shown on our order form is included

EASY PROGRAMMING FOR YOUR ATARI MICRO

This book went out of print 3 years ago and we have been searching for a replacement ever since. We are absolutely delighted to have found more stocks of one of the best beginner's books ever published. Over the past couple of years whenever someone has phoned for a beginners book on programming we have advised then to try and find a second hand copy of this book - now you can buy it once again, brand new! By the end of this book you'll be writing your own programs, including those with full graphics and sound.



OUR PRICE £5.95

THE 130XE HANDBOOK



A programming book which covers not only the machine mentioned in its title but also the 65XE, 800XL and earlier models. The book will take you from the first steps in programming up to writing good, structured programs. One chapter is devoted to the sound capabilities of the XL/XE with details of the sound chip itself allowing you to create more sounds than is normally possible with Basic. Four chapters cover graphics including Display List programming, Player Missile Graphics and redefining characters. There are extensive appendices covering Basic commands, Error codes, sound and graphics references and much more. An ideal companion for novice and intermediate programmers.

Published price £7.95

OUR PRICE £3.00

ATARI ADVENTURES

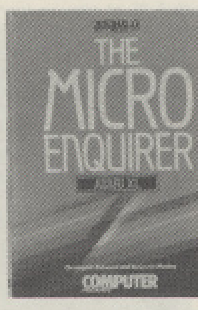
An excellent book written by adventure expert Tony Bridges covering adventures in general and showing how you can write your own adventures on the Atari. This book has in fact formed the basis for some of the adventure listings that have been published in PAGE 6. Tony will take you through examples of commercial adventures with lots of background to all different types of adventure and then show you how all these ideas can be put together in your very own adventure. There is a playable adventure listing called The Eye of The Star Warrior to show you just how it all comes together. Everything you need to know to write your first adventure.



Published price £5.95

OUR PRICE £1.50

MICRO ENQUIRER



A large format book that covers the world of micros in general with some specific Atari sections. The book contains a lot of worthwhile background information on home computing and is ideal for those who are recent converts or who want to expand their general knowledge of computers. It covers all sorts of topics including languages, bulletin boards, CAD, Data Processing, Printers, Artificial Intelligence and much more. There are a few Atari specific programs to illustrate various concepts but generally this book will fulfil a need to know more about the world of computing in general. Large format with over 180 pages.

Published price £8.95

OUR PRICE £2.00

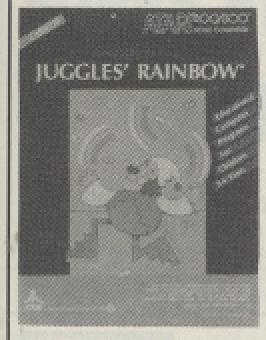
WRITING STRATEGY GAMES

If you are fed up with simple arcade style games but are not sure of the maths required in writing 'thinking' games like chess here is a book that will help you out. To write games of strategy requires not only a knowledge of programming but also of certain mathematical and coding techniques. This book is pitched at an intermediate level, assuming that you already know some Atari Basic. Machine code programmers are also catered for with many hints on how to modify the routines. The book covers the programming theory behind intelligent games before moving on to practical examples of setting up a chess board, moving pieces and playing through. There are sample games for draughts, chess and other strategy games.



Published price £5.95

OUR PRICE £1.50



JUGGLES RAINBOW

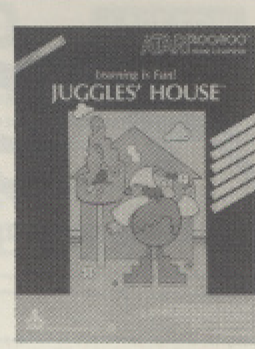
A first computer learning experience for children aged 3 to 6 that teaches the concepts of above, below, left and right plus letter recognition allowing the child to enjoy learning with colours and music and games they can create and play themselves.

OUR PRICE £5.95

NOW ALSO ON DISK!

DISK OR CASSETTE

JUGGLES HOUSE



Another for 3 to 6 year olds teaching the concepts of inside, outside, upper and lower with Juggles' House and Toyshelf. each game also includes a 'playground' where children can try out these new ideas for themselves.

OUR PRICE £5.95

SPECIAL OFFER - PURCHASE BOTH JUGGLES PROGRAMS FOR JUST £9.95

CASSETTE ONLY



MOON PATROL

Your beat: Sector Nine, home of the roughest, toughest thugs in the galaxy. You have the finest patrol car on the force, complete with anti-gravity jump buttons and laser bullets, but you'll need more than a hot car in the rough terrain of Sector Nine. Blast UFOs. Leap over landmines. Demolish tanks and jump huge craters and moon rocks - just to survive. Great 3D graphics and good music add to the enjoyment of this addictive arcade conversion.

Normally £12.95 **LAST FEW!**

OUR PRICE £6.95

ROM CARTRIDGE

MUSIC PAINTER



An exciting educational program that helps to teach music by using colours instead of notes. Change the fifteen supplied songs to feature different instruments, make the notes longer or shorter or transcribe your own songs. No musical knowledge required to make your own great music. Children or adults alike will get great satisfaction from being able to create their very own music.

OUR PRICE £7.95

DISK ONLY



CAVERNS OF MARS

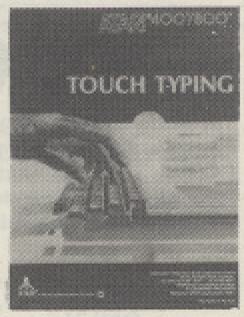
Winner of one of the first Atari programming competitions, this was one of the first vertical scrollers and remains a much sought after original game. Descend through the caverns avoiding mines and picking up fuel. Highly playable and addictive, only one or two have made it to the bottom of the cavern to discover the secret that awaits them.

LAST FEW WITHOUT BOX BUT WITH FULL ORIGINAL MANUAL - LOWER PRICE

OUR PRICE £4.95

DISK ONLY

TOUCH TYPING



Everyone who uses a computer needs to brush up on their typing and now you can learn to type like a professional typist with this complete tutorial. Touch Typing presents a self paced method of learning by letting you practice typing letters, sentences and paragraphs. The computer determines words per minute, number of errors and your weak points. Random sentences are generated to drill you in those areas. Contains two cassettes and instruction manual.

Previously £19.95.

OUR PRICE £4.95

CASSETTE ONLY



MICROSOFT BASIC II

Now you can use the industry standard Basic on your Atari. An ideal purchase for owners who have learnt to program on other machines. Includes 140 page manual and extended features for disk drive owners. (Can be used with cassette).

Normally £19.95 **LAST FEW!**

OUR PRICE £11.95

ROM CARTRIDGE

TYPO ATTACK

A typing trainer based on the Space Invaders concept in which you hone up your typing skills by blasting falling letters. An enjoyable way to learn that will quickly enable you to recognise the keys without having to look at the keyboard.



Normally £12.95

OUR PRICE £6.95

ROM CARTRIDGE



SILENT BUTLER

The all round personal finance planner that keeps track of three bank accounts, maintains income records, reminds you of birthdays, anniversaries and important dates and generally keeps you up to date on your financial status.

OUR PRICE £6.95

DISK ONLY

HOME FILING MANAGER/PAY OFF

DISK ONLY

The Home Filing Manager record keeping system that simulates index cards on your Atari, keeps track of almost anything together with The Pay-Off Adventure - your chance to sample an adventure in classic style. This two disk set also includes some top class graphics demos.

SPECIAL PRICE - ONLY £1
WHEN PURCHASING ANY OTHER ITEM
AVAILABLE ONLY WITH THE PURCHASE OF OTHER SOFTWARE

A Further Selection

More software for your added enjoyment ranging from adventures to arcade games and serious software. Check out Visicalc - we only have a few copies left!

PIRATE ADVENTURE

"Yo ho ho and a bottle of rum ...". You'll meet up with the pirate and his daffy bird along with many strange sights as you attempt to go from your London flat to Treasure Island. Can you recover Long John Silver's lost treasures? Happy sailing matey. Scott Adams Graphic Adventure #2 brings you a superb Beginner's level adventure complete with graphics and ideal for all ages

DISK ONLY

Original price £19.95

OUR PRICE £7.95

VOODOO CASTLE

LAST FEW!

The Count of Monte Cristo reposes in a coffin in his musty castle, awaiting an able assist from you to remove the curse that binds him to non-life. Is he down for the Count for good, or can you help? Gather your rabbit's footand prepare to step through the portal of Voodoo castle! Scott Adams Graphic Adventure #4 is a Moderate level adventure ideal for those who have had a little experience.

DISK ONLY

Original price £19.95

OUR PRICE £7.95

THE COUNT

LAST FEW!

When's the last time you awoke in an antique brass bed in a dank, desolate castle? If your answer is "never" you've come to the right place! This marvellous Gothic Adventure will escort you into the weirdling world of a certain well-knownTransylvanian count. Scott Adams Graphic Adventure #5 is a Moderate level adventure ideal for those who have had a little experience.

DISK ONLY

Original price £19.95

OUR PRICE £7.95

STRANGE ODYSSEY

At the galaxy's rim, there are rewards aplenty to be harvested from a long-dead alien civilization. Fabulous treasures ... advanced technologies far beyond human ken ... All this and more awaits the brave galactic Adventurer. But will you be able to recover the wealth and return home? Prepare yourself for a Strange Odyssey! Scott Adams Graphic Adventure #6 is a Moderate level adventure.

DISK ONLY

Original price £19.95

OUR PRICE £7.95

VISICALC

LAST FEW!

The world famous Visicalc spreadsheet available for your Atari. Visicalc will take care of all of your spreadsheet requirements with all the arithmetical functions you could want on a spreadsheet that is 63 columns wide by 254 rows deep. All major spreadsheet functions are supported and the program even allows split viewing windows. Priced at £159.95 when first released!

DISK ONLY

OUR PRICE £11.95

TIMEWISE

Why not use your Atari as an electronic diary? Timewise allows you to keep track of all your appointments and important dates on a daily, monthly or yearly basis. Now you can dispense with your diary and let your Atari do the work. If you have a printer Timewise allows you to print out the information in a variety of ways.

DISK ONLY

Originally £22.99

OUR PRICE £7.95

PLANETARIUM

Fun or education? Both really in this fascinating look at the heavens. Over 1200 stars, 88 constellations, the solar system and more than 300 deep-sky objects are depicted in this program that allows you to view the universe. You can make stellar and planetary maps, study eclipses, learn about latitude and longitude and much more.

1050 DRIVE ONLY
Please state when ordering if you have a US Doubler fitted

SOLD OUT

PROOFREADER

Users of Atariwriter will be delighted with this, the long lost spelling checker for the Atariwriter cartridge! Proofreader may be loaded alongside Atariwriter to give you instant access to a dictionary of 36,000 words. If that is not enough you can add your own words as you go. Errors are highlighted on screen for correction, unusual words can be saved and you can look up spellings.

DISK ONLY

OUR PRICE £5.95

HARDBALL

American League baseball at it's very best. A highly regarded game - check out the review in Issue 45 'THE best sports simulation on the Atari'. Look over the pitchers shoulder as he throws the ball to the waiting trio of batter, catcher and umpire. In HardBall you can hit, run, steal, blunt and dive, change the fielders and do everything you can do in the real game. For one or two players.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £7.95

ARCHON

A chess-based game with the forces of Light and Dark doing battle on each square. Cast spells and missiles to gain squares and eliminate your opponents pieces. Your magic rises and ebbs with the board's luminosity cycle. As the light changes, so does your power. You must race against time and use your strength effectively. A truly original game that is difficult to explain. One or two players.

ROM CARTRIDGE

SOLD OUT

MACRO ASSEMBLER

The Macro Assembler will allow you to create your own machine language games and applications five times faster than with the Assembler Editor cartridge and it can assemble as many as 1600 symbol definitions with no limit on program size. You can duplicate code, optionally assemble code and modularise your program. A Program-Text Editor is included.

DISK ONLY

Normally £19.95

OUR PRICE £7.95

BASIC CARTRIDGE

Why would you want a Basic Cartridge when Basic is already built in to your machine? Well some programs, especially some early public domain programs won't run on the XL/XE but they will if you plug in the old version of Basic. Much more convenient than having to boot in the old Basic from disk and, at this price, worth having just as a backup.

ROM CARTRIDGE

OUR PRICE £3.95

SUPER BREAKOUT

Breakout was the original simple yet totally addictive game and this enhanced version will provide even more addictive fun. Several variations on the basic theme are available for one to four players (up to 8 on the 400/800!). NOTE that this game requires paddle controllers.

ROM CARTRIDGE

Normally £9.95

OUR PRICE £3.95

TENNIS

Great sports fun either against the computer or another player, singles or doubles. Forehands and backhands, driving approach shots, angled volleys, overhead smashes and tricky lobs - they are all here. You control your position on the court and where you want to hit the ball. The electronic scoreboard dis plays the results. All the action without the sweat!

ROM CARTRIDGE

Normally £12.95

OUR PRICE £6.95

STAR RAIDERS II

Disk version of this follow up to the greatest computer game. Your mission is to pilot the hottest fighter in the galaxy - the Liberty Star - to destroy the entire Zylon Master Force. Your weapons are: Pulse Lasers, Ion Cannons and Surface Star Bursts. Warp between two systems, protecting friendly bases whilst dropping Star Bursts on the enemy. More great action in Star Raiders fashion.

DISK

Normally £14.95

OUR PRICE £5.95

JOUST

Don your helmet and hoist your lance and climb aboard an ostrich in this unusual arcade game! Do battle with the evil Buzzard Riders in deep space. Pterodactyls to the right of you, alien eggs to the left, you must learn to fly so that you won't die so very far from home. All the arcade thrills for one or two players.

ROM CARTRIDGE

Normally £12.95

OUR PRICE £6.95

BALLBLAZER

Another from Lucasfilm, this top quality split screen game takes place in a games arena of the future. You are strapped into a Rotofoil hovercraft-like vehicle that skims over the surface of the playfield at 50 metres per second. The object is simple, just release your Plasmorb through your opponent's goal. Two-player simultaneous play with first person perspective for both players.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £6.95

STAR RAIDERS 2

The original Star Raiders is updated with better graphics and sound. Your job is to clear each sector whilst ensuring that the enemy do not overrun planets in another part of the galaxy. It will take skill in deciding which sector to warp to, can you afford to clear a sector or will you have to leave to defend a planet and return later! A great follow up to an all time classic.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £6.95

MIDNIGHT MAGIC

Pinball on your Atari can become totally addictive as thousands on addicts to the famous Pinball Construction Set will testify. Now you can join in the fun with David's Midnight Magic, all the thrill of the pinball table on your screen. There are flippers, bumpers, drop targets and you can even 'shake' the machine. All of the action,of real arcade pinball for up to four players.

ROM CARTRIDGE

SOLD OUT

FIGHT NIGHT

Fight Night brings you all the thrills of the boxing ring as you face five of the most brutal fighters ever. Its five separate battles are total war with relentless action. The Boxing Construction Set allows you and your opponent to create your own perfect boxers, selecting stamina, intellect and style. Step into the ring to pit your perfect boxer against the computer or another opponent. 1/2 players.

ROM CARTRIDGE

SOLD OUT

MISSILE COMMAND

LAST FEW!

Another of the all-time classic arcade games that has you defending cities from missile attack. Command the defence guns as enemy missiles rain down from space to attack your cities. Later smart missiles and bombers will appear making the action more and more frantic. For one or two players.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £5.95

GALAXIAN

Another arcade conversion that retains all of the addictiveness of the original and still stands as one of the all time classics. Blast the galaxians as they advance in formation and peel off to attack. With one or two players and 10 skill levels you'll be entertained for a long time. Includes an easy option for beginners.

ROM CARTRIDGE

Normally £12.95

OUR PRICE £6.95

U.S. FOOTBALL

American Football is now a big craze in this country and you can now play at home. Outsmart the defence, pass with amazing accuracy, run with speed and agility, make tackles, select offensive and defensive plays and more. You can take on the computer in a practice game or challenge a friend to a dramatic video bowl game of your own in a packed stadium. All the thrills of the gridiron.

ROM CARTRIDGE

Normally £12.95

OUR PRICE £6.95

RESCUE ON FRACTALUS

Ask old hands what was one of the best games ever for the Atari and a good proportion of them will say Rescue on Fractalus. This game from Lucasfilm set new standards in computer games combining a space flight simulator with a rescue mission. Super, ever changing, 3-D scenery as you fly through the mountains to land on the planet and rescue stranded pilots.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £6.95

BATTLEZONE

Another cracking arcade conversion that set new standards. You command a tank on the battlefield under attack from enemy tanks and flying saucers. You can manoeuvre through 360 degrees as the enemy attacks from all directions. Watch your radar, turn and blast as the enemy approaches at speed. It takes nerves of steel. One player, five skill levels.

ROM CARTRIDGE

SOLD OUT

LODE RUNNER

Another classic, perhaps the best of all platform games. You are a highly trained Galactic commando deep in enemy territory. Your mission is to infiltrate all 75 of the enemy's subterranean levels to recover every last piece of gold. You are equipped with a laser drill pistol but you'll need cunning, speed and agility. Lode Runner includes a unique extra that allows you to create your own levels.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £7.95

ONE ON ONE

Play basketball with two of America's top players in this great sports simulation which features realistic offensive and defensive moves, fatigue factors, hot streaks, a shot clock, even instant repay and a shattering backboard! Like the game of basketball itself, One-on-One rewards you for playing with your head as well as your hands.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £6.95

DESERT FALCON

A version of the classic Blue Max that finds you flying across the desert Indiana Jones style searching for hieroglyphics hidden in the desert sands. You need to survive long enough to destroy the howling Sphinx. The longer you survive and the further you proceed, the more perilous your mission becomes. If you destroy the Sphinx you get to gain the bonus round for even higher points. Four levels.

ROM CARTRIDGE

Normally £14.95

OUR PRICE £7.95

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	GALAXIAN	£ 6.95	
	U.S. FOOTBALL	£ 6.95	
	JOUST	£ 6.95	
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LAST FEW

Qty.	Title	Price	Total
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PAGE 6 Software	£
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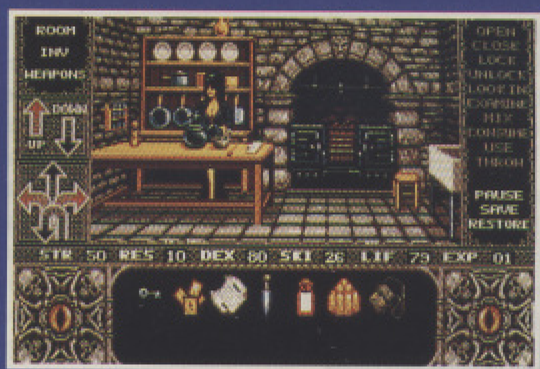
Lots of new releases lined up by US GOLD either already out or released over the coming months on several different labels. Two new games on a new label from Loricels are ADVANCED DESTROYER SIMULATOR which is set in 1940 and simulates real WWII battles in the Med., North Sea and English Channel with 15 different missions and PANZA KICK BOXING, a new slant on the ever popular karate games complete with VCR mode in which you can play back the action. Both these on the Futura label. SHADOW DANCER is another Ninja game taken from the Sega arcade original in which Ninja and faithful pet dog do battle with nasty terrorists. On a slightly more peaceful theme GAUNTLET 3 is promised soon. Going back to the simulation theme there is CYBER-COM III, designed by the author of Carrier Command, set in the future when a Peace-keeping computer has control of all the world's weapons but goes mad and is transformed from the Great Defender to the Great Destroyer (sounds like Saddam Hussein!). SUPER MONACO G.P. is another Sega conversion to add to the ever growing number of racing games with "unbelievably realistic scenes". But they have all said that haven't they? Then we have WARLOCK - THE AVENGER, a follow on from Druid, in fact you get the original Druid game thrown in free! All the usual fantasy themes are in this one or two player game. If you don't like the old established fantasy worlds, how about trying HORROR ZOMBIES FROM THE CRYPT! Six levels, six hundred screens, pitfalls, false walls, hidden doors and more. You can guess the theme from the title. Looking much farther ahead keep an eye out for LOOM from Lucas Arts, creators of Indiana Jones and the Last Crusade and Zak McKraken. This one is a fantasy adventure where you enter the world of the Weavers, a race that weaves the fabric of life itself. Looks interesting. A bit more down to earth but dwelling on the violent side is NAM 1965 - 1975 a simulation of the Vietnam War from Domark. We believe this is Domark's first foray into simulations. You play the President and Commander-in-Chief in a number of scenarios including The Tet Offensive, Khe Sanh and one in which you choose either President Nixon or Johnson and rewrite the history books. This is based very much on historical fact and covers the full 10 years of the war. Maybe the next simulation will be the Land War in the Gulf. Trouble is that game will have finished by the time the disk loads up! Accolade are up and running on their own with TEST DRIVE II: THE DUEL and accessory disks CALIFORNIA CHALLENGE, THE SUPER-CARS, EUROPEAN CHALLENGE and MUSCLE CARS. If you want a driving simulation, that lot should keep you quiet for a long time. They are out now and will be reviewed next issue. Accolade should have also released ELVIRA, MISTRESS OF THE DARK, at long long last! Let's finish off with some more Domark stuff to look out for in the coming year. SKULL & CROSSBONES and HYDRA are both conversions from Atari arcade machines, the former allowing you to swash your buckle in a 'dramatic hack 'n' slash game for two players' whilst the latter finds you as a super government hired mailman in a world ruled by terrorists. You have to deliver such things as mutant virus strains and doomsday machines! Which side did you say were the terrorists?



THE DUEL - Accolade's latest offering in the road racing stakes



LOOM - some excellent graphics in a fantasy adventure produced by Lucas Arts



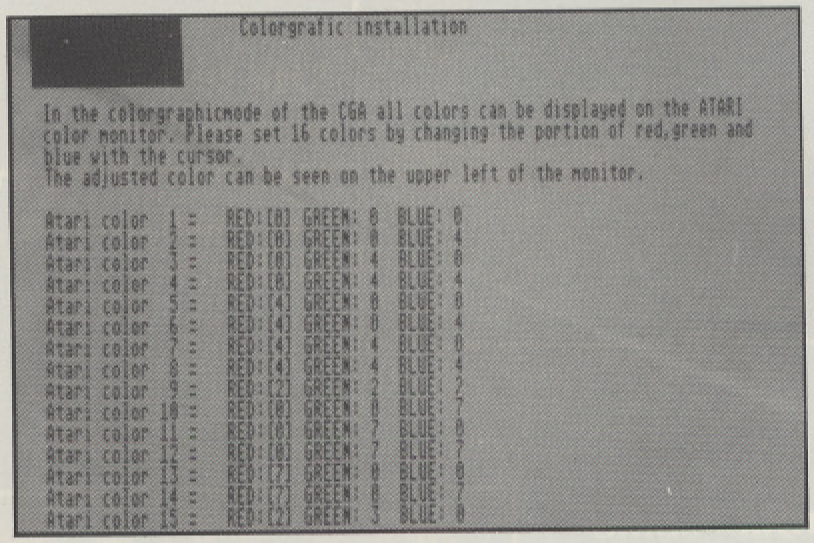
ELVIRA - much enhanced and released at last



CAR-VUP - a 48 level platform epic from Core Designs

EMULATING THE IBM

PC SPEED



"What on earth do you want a PC for?". This was the question I was asked when I told a friend that I had just fitted PC Speed to my 1040 STFM. I explained as eruditely as possibly that there was a great world of serious software out there with a wealth of PD support. This did little to mollify him until he realised that his ST could work with the same systems as a great deal of the machines at his place of employment. Emulation entered another man's life!

I did not point out to him that one of the prime reasons for obtaining the emulator was to be able to play Infocom games at reasonable speed, and to enable myself to use some of the other interesting strategy software that seems more readily available on the IBM than the ST. To me that is good enough reason for having a PC Emulator but, of course, it does open up a whole new world of more serious applications if required.

Having explained the why, what about the how? PC Speed is a hardware conversion, as opposed to the creditable but painfully slow PC Ditto unit I reviewed about eighteen months ago which was entirely software dependent. The unit comprises of a circuit board and two brackets. The first of these brackets has to be soldered onto the MMU (Memory Management Unit) in order for the second slot and the board to be inserted. This is not necessarily an easy fit and indeed my ST's internals are now uncovered by heat sinks or other metallic parts. Fortunately I knew someone quite adept at this who fitted it for me. Geistner do offer a fitting service for the nervous and I believe fitting is slightly easier in STEs.

It took a couple of tries to make sure the board was seated properly and then ST was ready to try its first Big Blue program. First I had to insert the software that would wake the emulator and change Dr. ST into MR IBM. It took some time to set this up the first time since there are many problems in making the ST perform colour-wise and mouse-wise. Still the presets were adequate and the disk drive whirred. The reassuring message A> Insert DOS Disk appeared. Well here is another lesson to be learned as with PC Speed and all other emulators I have met, DOS is not supplied. Fortunately I happened to have my own DOS 3.3 inserted it and all was well. The second drive was recognised and even the mouse was recognised, although it was far too effective and I quickly disconnected it.

The advertisements for the hardware assure the user of total sound compatibility and a Norton rating of about 4 which is almost true. I am sorry to say that the sound emulation is not perfect and indeed is a little slow and a smidgen tone deaf, nevertheless it ran my programs faultlessly, indeed speed wise it compared very favourably to the AMSTRAD 1512s and 1640s I have come across. The screen updating is a little tardy but nothing that cannot be adjusted to. In comparison to my, only recently acquired, XT laptop the screen updates are slow.

I would not recommend this upgrade to anyone whose prime concerns are graphic oriented or heavy number crunching actions. On the other hand the system runs word processing very well and as yet I have not found a package it dislikes. Much as I would like to comment about the Hard disk compatibility I cannot do so since I do not have such a beast in my stable.

The unit accepts all the system calls and DOS routines that I need BAT files work well but the one peculiarity of the machine is that regardless of DOS type it always assumes single sided single density floppies. There are ways round this either by using proprietary formatters or using the logical drives of DOS with the correct format switches. I assume that any readers considering purchasing this item would understand MS/DOS and its peculiarities sufficiently not to have this explained further. Should any reader have the system already and not stumbled across the answer as accidentally as I did please get in touch via New Atari User and I will try and recreate a batch file to help.

I have been using this system for the last seven or eight months and basically I am very pleased with it. I suspect that the instructions as translated from the German make the installation harder and I know that the peculiar set up for pallettes needs much more explanation, since I still use the default settings. On the other hand it does give a cheap way into a different area of the hobby. Exploring DOS has given me new confidence in understanding Trees and Autoboots, indeed even Protext now makes more sense!

I am aware that there are now improvements to PC speed in the shape of AT speed but I am not convinced that for the extra cost the facilities will be greatly enhanced, since I fear that graphically it will take some time for anything better than the current CGA emulation to appear. Indeed using the SM124 monitor a better grade of Hercules graphic appears anyway.

It would seem that emulation is just that - emulating or pretending. If you need a proper IBM compatible then that is what should be bought but if you only require something that allows you experiment with DOS or catch up with work machines then emulation is an excellent idea. It is also a great deal cheaper.

USER FRIENDLINESS

Once installed the emulator is reliable and very compatible

SOUND & GRAPHICS

The sound is not perfect, although graphically slower than standard the quality of CGA and Hercules is good

VERDICT

A worthwhile buy if you need occasional IBM facilities, better value than early Amstrad PCs!

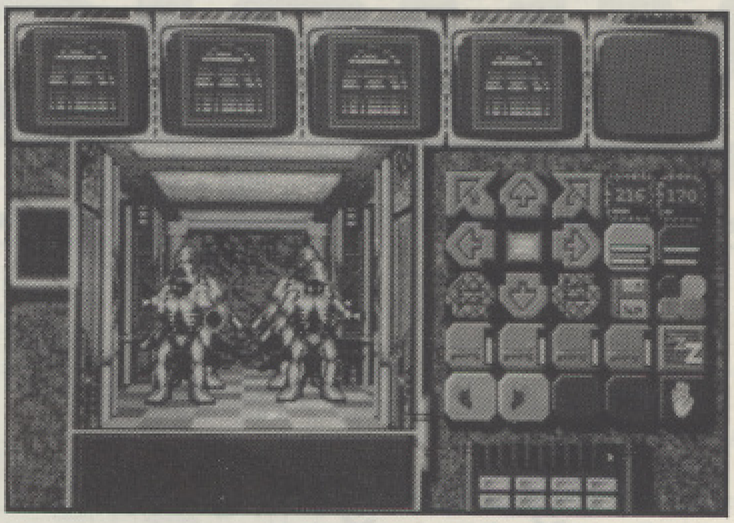
HARDWARE:	**PC SPEED**
SUPPLIER:	**GEISTNER (Britain)**
PRICE:	**£190.00 (varies)**
Reviewer:	**Damon Howarth**

CAPTIVE

It has taken some time, but finally the REAL Dungeonmaster Clones have started arriving. There have been lots of games hyped over the last couple of years as being as good as Dungeonmaster, but most have been a disappointment. Not so with Captive - it has the same playability, quality graphics and addictiveness as the original game.

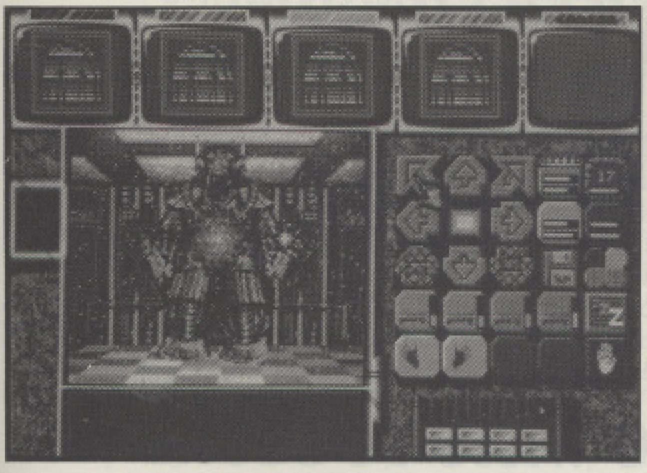
The plot this time is that you are a prisoner on a remote space station in the year 2542. You discover a laptop computer which will allow you to control four remote droids. With very little in the way of instructions you must control these droids as they fight their way through enemy bases scattered throughout the galaxy; destroy countless monsters - Gremlins, Whirls, Imperial Walkers, Tanks, Scientists, Jobs-worths, Floating Samurai (beware these - most are very quick), Dragons, etc.; spend their ill-gotten gains on better weapons and body components; spend their experience points on better skills; and map the vast underground complexes so that they can destroy them once you have found the key to reaching the next one.

The fighting in Captive is very similar to Dungeonmaster - you need to develop similar techniques of attacking and dodging in order to conserve your shields and reduce the level of injuries, otherwise you will run out of gold! You also need to be careful how you spend your experience points or you will not be able to use the powerful weapons you need to survive on the higher levels.



Being technologically based, Captive does not have magic, however it does have lots of extra bits of machinery to plug into your droids - Shields, Anti-Gravs, Cameras, Mappers, Root-Finders, Power Sappers, Magna Scans, and so on. You need to experiment with these to get the most out of them - e.g. right click on the Mapper screen centres it on you; left click on the centre of the camera view moves the camera remotely; and the Root-Finder is invaluable for both finding bases and also getting out of them when you have blown them up!

The puzzles and mazes are not generally as difficult as in Dungeonmaster - there are levers controlling barriers, buttons on doors which you must experiment with until you find the right combination, and consoles requiring passwords which have to be found around the base (usually by killing somebody!). The Mapper is a great help in checking which bits you haven't reached yet; although it only shows a small area at a time, it can be scrolled to display all the areas you have explored - you still need to make rough maps to show where the best shops are and a few other important features, but it is much easier to explore than many similar games.



As far as Role Playing is concerned, Captive is as unsubtle as Dungeonmaster - i.e. if it moves - kill it!

Mission 1 is about as big as the whole of Dungeonmaster and great fun to play (though maybe not quite as satisfying from the point of view of puzzle solving). After blasting your way through ten bases you reach a Space Station and if you finally reach the end of that multi-level maze, smashing screen-size monsters with cannons along the way, you can guide your droids to your cell to rescue yourself, only to find you have been snatched away to another remote hideaway! End of Mission 1 - only 6,499 to go (generated by clever algorithms so that no two are the same)! They reckon the average playing time is something like 40 years! I suspect that you may have run out of new monsters to meet and new skills to acquire before then - but never fear, Mindscape are planning to release new Mission Disks to give you some more variety!

Title:	**CAPTIVE**
Publisher:	**Mindscape**
Price:	**£24.99**
Reviewer:	**John Sweeney**

- ***SIGHT & SOUND*** - *Superb graphics - a great variety of vicious monsters - plus lots of neat sound effects*
- ***GAMEPLAY*** - *Well-designed mouse-driven exploring and fighting in the style of Dungeonmaster - but with lots of extra goodies too*
- ***VERDICT*** - *Great fun to play - highly addictive - well recommended*

GETTING STARTED

As it is a little obscure, you may like some help to get going:

Plug your chips into your brains! *(The easiest way to access your droids is by clicking on the bars at the very top of the screen.) Find the flashing green dot and click on it. Select ORBIT.*

Zoom in and click on the little diamond *(LAND-LEV0) - select LAND.*

Go to the big round door *- find a clipboard nearby and use the code on the corner buttons of the door.*

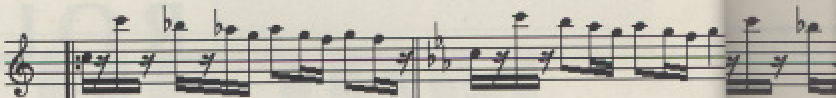
Inside: *you can push the wall which has rollers along the bottom - right click on forwards.*

Power Points: *touch them then touch your breastplates to recharge.*

Kill the first monsters with your fists. *Follow the left hand wall (push another roller) until you reach a shop. Buy lots of balls - they are powerful weapons at this level and reload automatically from your inventory - watch out for rebounds!*

Good Luck!

MAKING MUSIC WITH YOUR ATARI



PRINTING OUT A SCORE WITH COPYIST

John S Davison's regular guide to all the ways of making music on your favourite computer

Anyone seriously into making music will at some stage probably want to write their creations down on paper. This can be a very tedious manual process, so seems a natural application for the computer. In fact there are a number of music publishing packages now available on the ST, and I recently managed to borrow one to try out. This was Dr. T's Copyist Apprentice, a music scoring package offering lots of facilities and professional looking output for the relatively low price (for this type of package) of £79.95.

For the uninitiated, Dr. T is a respected producer of all types of music application programs for a variety of computers. This package is one of a family of three music publishing programs, differing mainly in the scope of the musical scores they can handle and the sophistication of the printing process utilised. They're distributed by The Synthesiser Company, 9 Hatton Street, London NW8 9PR.

Copyist Apprentice is the baby of the range, handling musical scores of up to five pages with a maximum of 16 staves per page, and printing on Epson compatible dot matrix and Hewlett Packard DeskJet printers. Next up is Copyist Professional at £225, which handles up to 50 pages, and adds support for the Atari laser printer and HP GL compatible plotters. Top dog at £325 is Copyist DTP, with a capacity of 100 pages and added support for PostScript equipped laser printers and certain Linotronic typesetters, for the ultimate in printing quality. The two higher level programs also have additional facilities for extracting and transposing musical parts from a score, and converting scores into sequencer or standard MIDI files.

Getting back down to earth, Copyist Apprentice needs a minimum of 1MB RAM, a colour TV/monitor, one disk drive, and one of the supported printers. However, it's much better with a hi-res mono monitor and two drives, and better still with a hard disk, as the program uses disk pretty intensively. If your system has 2MB RAM or more you can use Dr. T's Multi Programming Environment, enabling you to load Dr. T's KCS sequencer program into memory alongside Copyist and switch between them as required - useful for transcribing KCS sequencer files, as we'll see later.

Copyist uses both mouse and keyboard commands, but most operations may be performed using just the mouse. You can also construct macros to automate regularly used sequences of operations. Staves, notes, text, and a host of musical symbols can be placed wherever you want on a page, and each symbol may be added, moved, or deleted independently. The supplied set of 47 symbols should be adequate for most purposes, but the two higher level packages also include a symbol editor to create your own, should the need arise.

A complete page of score won't fit onto the screen, so a scrolling system is employed. Moving from page to page is more complicated though, involving much disk activity, and is slow unless you use a RAMdisk or hard disk. With a few exceptions the screen display is WYSIWYG (What You See Is What You Get) - the exceptions being phrase, crescendo, and decrescendo markings, and (unbelievably) displaying of text! The markings appear in simplified form, while text is shown in just one standard style. Six different text styles are available for printing, supposedly allowing you to add titles, song lyrics, performance instructions, etc. to your music, but its non-WYSIWYG nature makes it difficult to accurately position with respect to the music. On a dot-matrix printer the quality of the text is nowhere near that of the printed music either.

TWO WAYS TO SCORE

A score may be constructed in two ways - either by building it manually using the program's editing facilities, or by importing a sequencer file containing the music and letting the program handle the lion's share of the transcription automatically.

The first approach requires you to place the staves, clefs, time signatures, and key signatures on the screen; position musical

notes on the staves; then add additional ornaments and performance symbols such as trills, dynamics, slurs, etc. Finally, guitar tablature and text may also be added if required. The editor seems daunting at first, but the manual contains an excellent tutorial, so it doesn't take too long to get the hang of things.

Note placement is the most tedious aspect of score production, so Dr. T has tried to speed up the process. There's a "keyboard" mode for note entry which uses the computer keyboard to enter consecutive notes of varying pitch. Chords may be input by pressing the appropriate computer keys in rapid succession. After a chord or note has been entered, the cursor automatically advances along the staff ready for the next one. There's also a "join" mode which automatically provides note stems and beams for groups of notes with similar durations. You still have to insert sharps, flats, and dotted notes individually though. The method does speed up the operation somewhat, but surely the best solution would have been to use direct note input from a MIDI keyboard? The program really ought to provide this as an option.



Output from COPYIST on a 9-pin dot matrix printer

Copyist also has a "range edit" facility, which allows you to highlight a block of notes and perform various functions on them. These include erase; insert; cut and paste; move; and join up/join down, permitting stemming and beaming of all note heads in the highlighted block. Erase, move, and cut functions can also operate on subsets of the highlighted items, for instance it's possible to erase only stems and beams, move only ledger lines, cut only the rests, etc. Overall the editing facilities are very good, but achieving accuracy with it takes a little practice.

SEQUENCER FILE TRANSCRIPTION

The other way of producing a score is to let Copyist construct one from an existing sequencer file. Not only will it take files produced by Dr. T's own sequencer (KCS - Keyboard Controlled Sequencer), but it will also read Steinberg Pro-24 pattern files, and Standard MIDI files. This process has to be broken down into several stages, each having a screenful of parameters to be set to ensure the file transcribes as you intend. Even so, the final results probably still won't be exactly as you want them, so some manual editing is inevitable. Transcription can be a very s-l-o-w process too, taking over an hour to completely translate a complex five minute piece which uses all 16 MIDI channels! It's still much faster than doing it by hand though.

Another shock - unless you're using a laser printer or very fast dot matrix printer score printing can also be time consuming. Two levels of printing are provided, namely draft and high resolution. Draft quality gives you a general idea of how the score looks, but skimps on the printing of the special symbols, such as clefs, phrase markings, and the like. The advantage is that it's relatively quick - only about 10 minutes per A4 page! In draft mode you can print the currently displayed screen, a whole page, or a complete file. High resolution mode prints a selected range of pages from the score in all their glory, but can take 20 minutes to produce each A4 page, depending on its contents!

If you've never printed your own music before, then even draft mode looks quite impressive. High resolution mode is something else, though. It really is superb, producing startlingly clean and clear output even on my lowly Star SG10 9-pin printer! Results from a laser printer using the higher levels of Copyist should be magnificent.

Overall, I really enjoyed my introduction to desk top music publishing using Copyist Apprentice. As you've probably gathered, it's not perfect, but considering its relatively low price it does an excellent job. Dr. T pursues a policy of regular product updates, so perhaps the next release of Copyist will address some of the niggles mentioned above. Copyist Apprentice has little competition at present, and if you're prepared to live with its idiosyncrasies I think you'll find it a useful package which will add a new dimension to your music.

SNIPPETS

....the second MIDI Music Show, aimed at everyone interested in MIDI music technology, will be held at the Novotel Hotel, Hammersmith, London on 26-28 April 1991. This time tickets are £5 instead of the ludicrously expensive £10 charged last year. Advance tickets are even cheaper at just £3, available by post from Westminster Exhibitions Ltd., Surrey House, 34 Eden Street, Kingston, Surrey KT1 1ER.

....one of the new Yamaha DD-11 drum machines has just been acquired by John jnr. It's aimed at the same market as the PSS home keyboards and is MIDI equipped, so I'll be looking at how you can use it with your ST in the next issue.

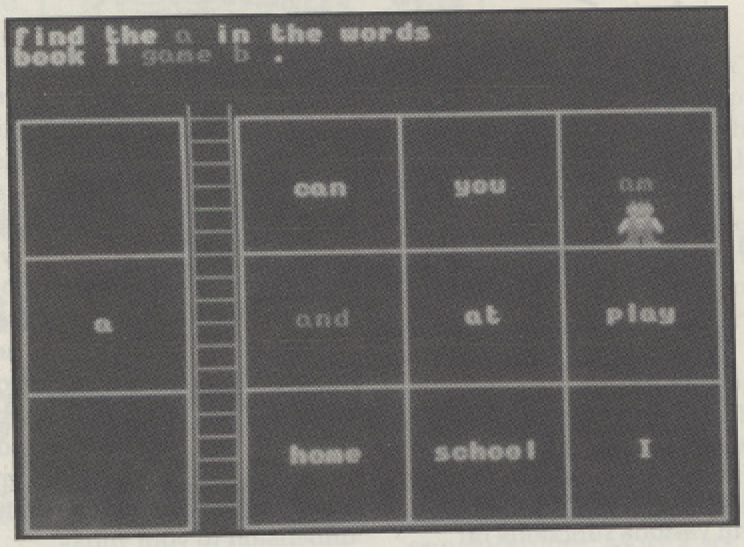
....thanks to Microdeal, who've just sent me review copies of Quartet, Mastersound 2, Replay VIII, and Replay Professional, the next issue will also see the first article of a series on sound sampling. This will also include details of some of the incredible new sample based music software just added to the Page 6 PD library, such as Equinox, SoundTracker, and the truly incredible NoiseTracker.

....the Page 6 PD library also has a great new PSS voice patch editor called the PSS Soundshifter. More details next issue.

....Page 6's World of Computer Music Making audio cassette has now completely sold out. I hope everyone who bought a copy enjoyed listening to it as much as I enjoyed making it.

That's it, out of space again. See you next time.

LEARNING TO RE



EDUCATIONAL SOFTWARE REVIEWED by JOHN S DAVISON

The Play and Read series of programs from Prisma is designed to teach your child to read. I reviewed Part 1 of the series in Issue 44, and was favourably impressed. Its aim was to teach the child a basic sight vocabulary of 63 words, introduced in a series of five books and a learning game provided as part of the package. Part 1 has now been joined by two further parts, and these are subtitled "Prof Looks at Words" and "Prof Makes Sentences", which build on the basics taught in the original program. Prisma claim they all conform with the requirements of the National Curriculum, and point out that children using them should do so under adult supervision, enabling guidance and encouragement to be given as required.

PROF LOOKS AT WORDS

Part 2 of the series encourages the child to start looking more closely at words already learned in Part 1. It does this by focusing on constituent parts of words, namely, beginnings; vowels; double letters; vowel combinations; and endings. It's keyed to the five books provided in Part 1, and although they're not absolutely essential it does help if you've already got them. The package contains only one single sided disk and a very skimpy instruction leaflet - not much for your money.

It uses the same basic learning game found in Part 1, requiring the child to match a part of a word shown on the left of the screen with the word containing it on the right. It's achieved by using the joystick or arrow keys to guide a little animated man (Prof of the title) around the screen to identify the two matching parts. The screen is divided vertically into several levels, and these are accessed by moving Prof up and down a ladder as required to get to the appropriate level. This can be quite tricky, as Prof has to be guided off the ladder with some precision, and is one area where adult assistance may be required, especially for very young children.

The program displays the problem to be solved at the top of the screen - another reason why adult supervision is needed. For example it might ask the child to find all the words displayed ending with a certain letter. The required letter is shown on the left of the screen, while several different words are displayed on the right, one or more of which end in the required letter.

Initially the required word ending letters will be highlighted in a different colour, thus helping the child to find them. He must first guide Prof to the letter on the left, then across to one of the words ending with it on the right, negotiating that ladder as required. A correct match earns a reward - in a puff of smoke Prof is temporarily transformed into a cute little animated character in the form of a car, boat, animal, etc.

As the child progresses, the endings are no longer highlighted, but are left off the words instead, so the child has to be able to recognise the words without them. Also, a number of different endings may have to be found within the one screen. A more difficult option requires the child to type in the required words from the ST's keyboard, although here we hit that old problem of the keyboard lettering being in upper case, while the children are learning to read in lower case. Not so good!

Correct completion of all the problems on a screen results in the original reward character appearing at the top of the screen to indicate the fact. Several characters have to be collected in this way to complete a step, and when achieved the child is given another reward. For this the game screen dissolves into a colourful "picture book" style graphic backdrop with the aforementioned characters providing some neat and amusing animated action.

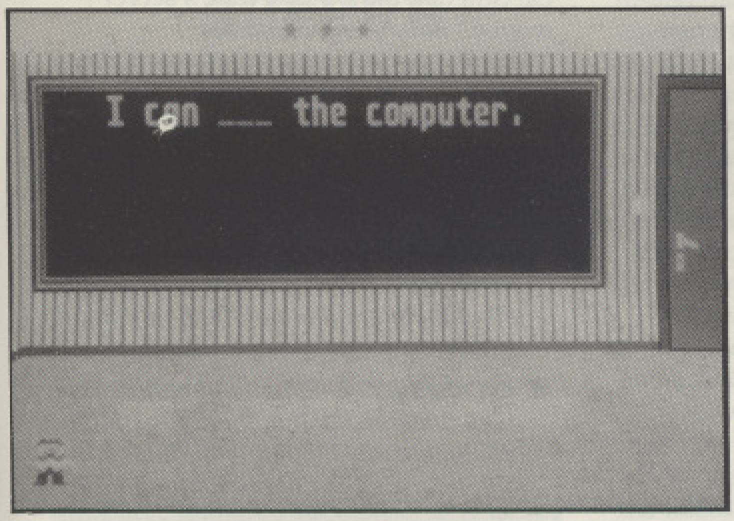
Exactly the same procedure and game are used no matter what aspect of the words are under examination. And this is my main criticism of the package - it could get tedious through repetition, especially following straight on from Part 1! However, the author argues that the method used has been proved to be the most effective way of teaching these subjects without too much distraction. He could be right, but I'm not totally convinced.

READ

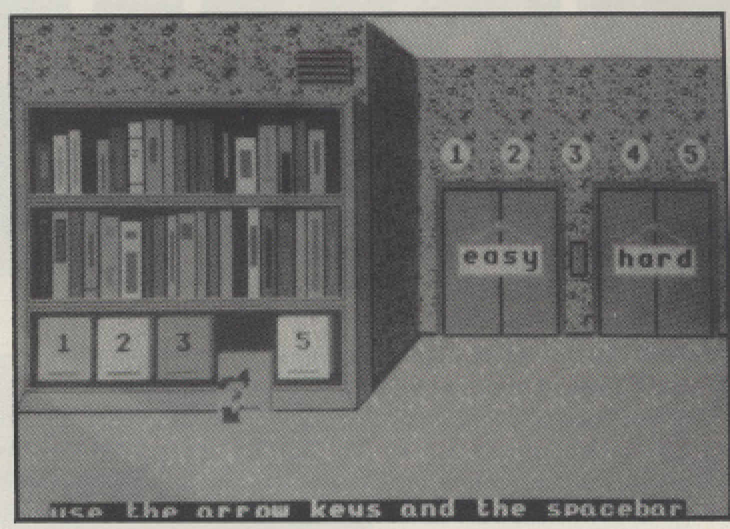
PROF MAKES SENTENCES

Part 3 of the series is designed to help the child start using his basic vocabulary in sentences, and uses a new game format to do it (thank goodness!). It comes on two separately bootable disks, one entitled "Finish a Sentence" and the other "Make a Sentence". The basic game screen depicts a classroom, with a large blackboard on the wall. The child completes the problems on this blackboard by guiding Prof to pick out words from a group appearing underneath it, or by typing the words in directly from the ST keyboard, if that option has been chosen.

"Finish a Sentence" starts the child thinking about the meaning of phrases and sentences by having him choose and insert the correct words into examples of them. Different phrases and sentences



appear on the blackboard in turn, and to begin with one word in each phrase is highlighted. A row of words appears under the blackboard and the child has to guide Prof to the one matching the highlighted word. A correct answer makes Prof jump for joy and clap his hands. As the child progresses, the required words are omitted rather than being highlighted, so the child now has to really prove he can read!



"Make a Sentence" takes the idea a step further, expecting the child to rearrange a given group of words into a meaningful sentence. Yet again it's based on the vocabulary learned in the five books of Part 1, and has "easy" and "hard" options. The "hard" option at Book 5 level can be quite difficult, as the child may have to make sense out of twelve words or more displayed in random sequence. When the sentence has been successfully constructed, the program rewrites it on the blackboard complete with all necessary punctuation, an area that's not otherwise covered by this series of programs (yet?).

As usual, after a number of successful answers a reward is given. Prof appears in a colourful scene such as a mediaeval castle, wildwest town, and space scene. Sometimes the animation here doesn't look very inspired, disappointing after all the child's hard work! On other occasions more exciting things happen though. The documentation gives no clues about what rewards to expect, so it's an area the child has to discover for himself!

As before, there's an option allowing the child to type in the words instead of guiding Prof to them. The same upper/lower case problem exists of course, but this could be solved if you don't mind messing up your ST's keys with sticky labels marked with the appropriate lower case letters! At least the child could then start to learn simple keyboard skills too.

The program uses a "star" system for scoring, both for "Finish a Sentence" and "Make a Sentence". A first time correct selection of a word earns a red star, second time correct gets a yellow star, and anything more merits only a green star. It seems the child is allowed to keep trying until he eventually finds the right word, the program making little attempt to prompt him for the correct answer. It keeps count of the numbers of stars earned and at the end of a step displays the totals for each colour. I expected the scores to be written to disk for future reference, as the program disk has to be booted in write enabled mode. However, this doesn't seem to be the case, so the need for write enable remains a mystery.

CONCLUSIONS

With three parts now released and a fourth part on the way, Prisma's Play and Read series is developing into a comprehensive ST based reading tutor. Generally, I like what I've seen of it so far. Each part seems well structured and presented, and has the bold and colourful graphics and cute animation likely to appeal to its intended audience.

I was rather disappointed with the sound though, as in the main this consists of just a few simple musical snippets and odd beeps and buzzes. Also, I felt let down by the instruction leaflets, as they contains little more than very brief program descriptions and loading instructions. I feel there there should be more guidance given on actually using the program. Could do better, Prisma!

I think most children would enjoy using the programs, but very young ones might just find controlling Prof in the ladder game a little too tricky. Also, I suspect they might get a little bored if overexposed to the programs, especially as the first two parts use an identical game format throughout. Overall though, used with care and appropriate adult supervision the programs should make learning to read an easier and more enjoyable experience. And that's what it's really all about, isn't it?

Title:	**PLAY AND READ LEARN TO READ WITH PROF - PARTS 2 AND 3**
Publisher:	**Prisma Software**
Price:	**£24.95 each**
Reviewer:	**John S Davison**

MURDERS IN SPACE

June 30th, 2005, 06:45 Universal Time: About to blast off on the European Space Shuttle to investigate alleged assassination attempt on the Mission Commander of Space Station Pegasus. Will have to be extremely tactful as there will be eight different nationalities represented up there.

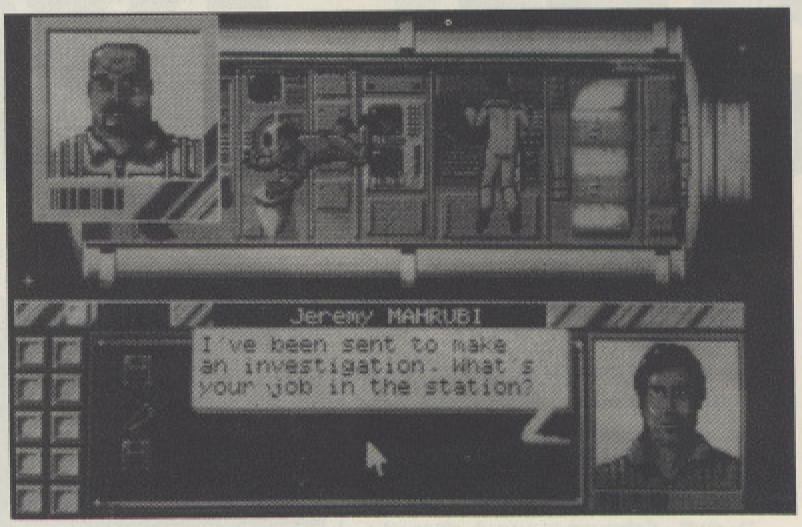
3:00 pm: Just docked - seemed to take a long time - maybe I should have taken Connoly's advice and used the joystick to do a manual approach? Floated through to the Stock Module and met Commander Amiot, said he would explain all at 5:00 pm. - meanwhile I should explore the vessel, get used to the lack of gravity and meet the crew.

4:00 pm: Explored all but one of the 9 rooms - Lab Module 2 seems to be locked; met most of the crew - couldn't find the German, and the Italian girl is frozen in a cryogenic device. Tried to set the controls to wake her up - I need to question everybody - not sure I set it right?

5:00 pm: Found that I can teleport around the vessel by clicking on the keypad in the corner of my computer - amazing what you can do with technology! Met the Commander - not convinced about this supposed "assassination attempt", but there is definitely something fishy going on up here - he says I can interrogate the crew after 6.00 pm.

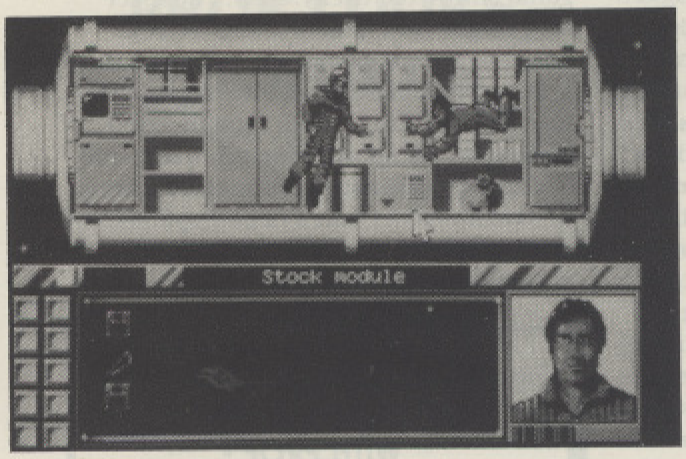
My computer interface suggests what I should think about and offers me a choice of questions for each crew member so I don't have too think too hard at the moment!

6:00 pm: Started questioning the crew - some of them are definitely secretive. The Commander suggested that I check all their electronic mail, but most of them won't give me their passwords. The Ukrainian girl was the most helpful - but even she only gave me a cryptic clue to her password!



7:00 pm: Most of the crew seem to have regular routines of jobs to do - some lock themselves in labs for periods and I don't really know whether that is standard procedure or not. The American and the Japanese are proving very unhelpful. I have searched everyone else and explored all but a few locked cupboards. Lots of personal items which might give clues to their passwords!

There are a few interesting machines but I can't seem to get most of them to work! The Space Suits batteries need charging - at least I was able to practise on the simulator in the Control Module in case I ever do need to go outside; I can't find a code to get the Manipulating Arm working (but hopefully I won't need to mix any chemicals); the Solar Telescope's controls are incomprehensible; and I'm still not sure that I have set the wake up alarm properly on the Cryogenic Life Support System!



8:00 pm: Things are getting worse! We seem to have lost contact with Earth - the external aerial has failed and no-one seems to be bothered about fixing it until tomorrow - I wonder if I could fix it myself?

At least I have cracked three of the passwords! One of them has some coded mail - very suspicious!

10:00 pm: Still not a lot of progress - some of them have told me of their suspicions of others but nothing concrete yet. Welcome Party in the Control Module - I didn't know they had wine in Space! Think I'll have a couple of hours nap now. I'll set my computer to simulate a faster passage of time!

Midnight: That was a mistake! The German is dead! I haven't a clue what is going on around here!

4:00 am: Oops - three more have died! Managed to repair the communications - asked Earth for help. They asked me 30 cryptic questions to give me some idea of what I should have been doing. Am not convinced about all of their hints - I suspect some of them are either jokes or Red Herrings! Still it gave me some clues as to what else I should have investigated! If only I could start again ... Maybe next time I should stop time altogether so I can really investigate what happens each hour in each room more carefully!

Many, many tries later: At last I have worked out what I should do to save everybody and how to confront the miscreant(s)! Finally found Connoly's code in my miniaturised Encyclopaedia Britannica! Still don't know everyone's secret - maybe I'll try one more time ...

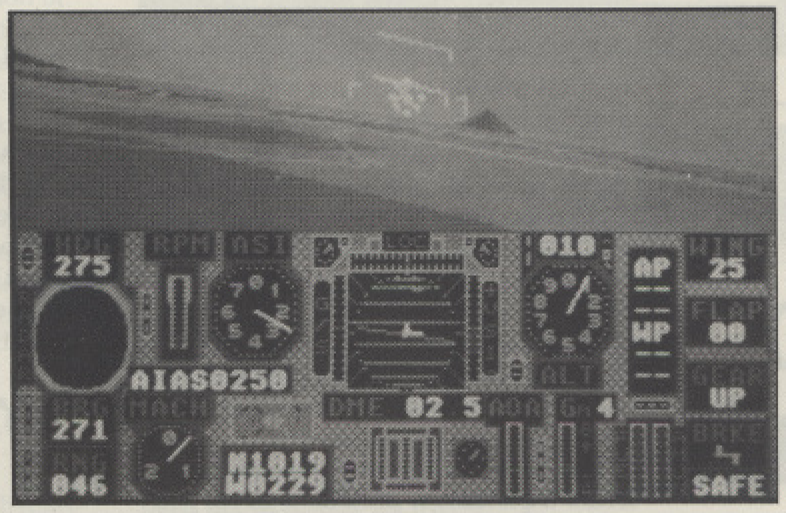
Warning - my clue package was missing a couple of items - if you have similar problems you can either contact Infogrames on 071- 738-8199 or ask the Guiding Light on 0898-338933.

- **SIGHT & SOUND** - *Excellent graphics - you actually get to use all the machines on-screen - lots of nice sound effects*
- **GAMEPLAY** - *Nearly all mouse-driven; well designed and easy to play. Multiple objectives: stop the murders; find the culprit(s); discover everyone's secrets; save the Space Station; crack all the codes; discover how the machines work; answer the questionnaire*
- **VERDICT** - *Very enjoyable - thoroughly recommended to all adventure players who like a good mystery; a tough challenge if you want to solve ALL the puzzles and not just find the bad guy!*

Title:	**MURDERS IN SPACE**
Publisher:	**Infogrames**
Price:	**£24.99**
Reviewer:	**John Sweeney**

PROFLIGHT

I don't usually start my reviews with accolades for the software under scrutiny, but in this case I can't resist it! I've waited for many years for a flight simulation program that can hold its own against Sublogic's classic Flight Simulator II (FS2), and at last I've found it! HiSoft's ProFlight really is the finest flight simulator I've had the pleasure to use since the ST version of FS2 appeared.



Overall packaging and presentation are very impressive. The hefty box contains one single-sided program disk and a very high quality ringbound manual. This includes lots of photographs and illustrations as well as detailed instructions. The program runs in colour or hi-res monochrome on any 512K ST/STE or above.

At first glance ProFlight seems similar to many other jet combat simulators now available. Like F16, Falcon, and others it offers dogfighting with enemy aircraft, in this case using cannons, Sidewinder, or Skyflash missiles, and ground target bombing with the help of hi-tech bomb delivery systems. This time though, the subject of the simulation is the Panavia Tornado, and it has one important advantage over most other simulators ...

SUPERB HANDLING

ProFlight's big plus is in its handling and flight characteristics. Primary flight controls are via mouse or joystick, with the mouse being better by far. You can almost FEEL the aircraft's responsiveness through the mouse - it's the first simulator ever I've actually enjoyed flying using mouse control. It requires a fine touch, but once mastered it gives an accuracy and smoothness of control I've previously only experienced in FS2.

Secondary control is via the keyboard, with a function assigned to almost every key. As with most flight simulators this takes some learning, and HiSoft should really have included a keyboard template to make things easier. There is a four page keyguide in the manual, though.

OK, it's complex, but the program includes several levels of assistance to build your flying skills. Firstly, there are a number of different demonstration flights and scenarios to help you learn about general flying, take-offs, and landings. Pitch and bank limits may be set on the aircraft's attitude so you can't get too wildly out of control while you're learning! Then, after learning about aerobatics, you can do some combat training by dogfighting with other aircraft and bombing ground targets - with "crash inhibit" mode set. It's a pity the Tornadoes in the Gulf War don't have this feature available! Then, when you're ready, you can switch to full combat mode and fight the enemy for real.

COMBAT TROUBLE

The only trouble I had was in combat mode, caused mainly by a few errors in the mission planning section of the manual. The main problem was that it incorrectly states that valid ground targets are marked on the map with WHITE symbols. Actually, they're YELLOW - at least in the review copy they were! Also, it doesn't explain how you verify what your selected target is. If you position the map cursor over a valid target (yellow symbol) a short description of it appears onscreen. If you're looking for white symbols you never get to see this!

REALISTIC

One of the keys to realistic flight simulation is obtaining a high screen display frame rate, and ProFlight's author has done a commendable job here. However, to help achieve the high rate needed the original version of ProFlight compromised on the graphics by using a distinctly odd looking method of shading the scenery. Just before this article went to press HiSoft sent me ProFlight V1.2, which replaces the shading with solid colour - with minimal impact on that frame rate, and improving the look of the graphics no end.

The supplied scenery database covers a relatively small area, but the program's capability is actually much greater. HiSoft tell me they're developing additional mission/scenery disks to follow, plus a further surprise or two still on their secret list! Scenery isn't quite in the FS2 league, but does include a good selection of buildings, bridges, pylons, lakes, rivers, roads, etc.

Other visual niceties include the ability to fly in daylight, dusk, or at night - when the stars shine down from an accurate representation of the night sky! You can also set weather conditions, including partial cloud cover, wind direction, speed, and turbulence.

I've spent countless hours flying ProFlight and still find it as thrilling as the first time I tried it. As far as pure flight simulation goes it's equal to FS2, and hence stands head and shoulders above all other simulators now available. However, it doesn't (yet?) match FS2 in terms of overall facilities offered, and as a combat simulator it's not as comprehensive as F16, Falcon, or (especially) F19. For me though, the pure flight aspects of a simulator far outweigh any combat or game considerations, so given a free choice of jet simulator I'd go for ProFlight every time. It's clearly a winner, will achieve "classic" status, and deserves a place in every flight simulator fan's software library. Buy it!

Title:	**PROFLIGHT**
Publisher:	**HiSoft**
Price:	**£39.95**
Reviewer:	**John S Davison**

PD Paul Rixon's WORLD

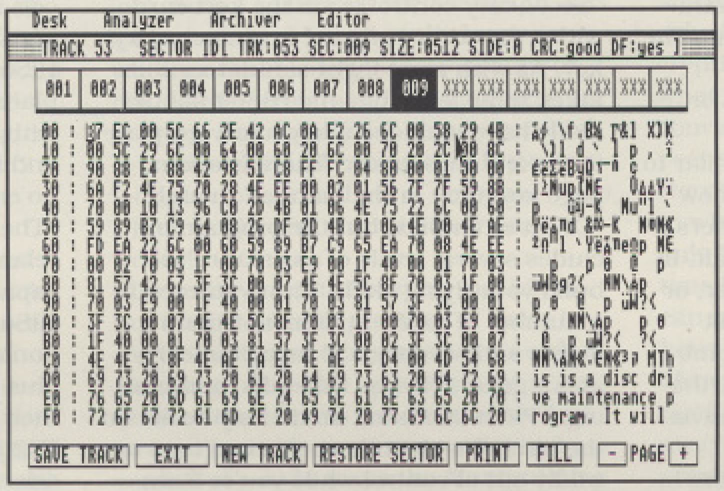
PROGRAMS THAT CAN'T BE OBTAINED COMMERCIALLY

One explanation for the enormous popularity of the Public Domain is that it provides users with a unique opportunity to acquire all sorts of invaluable utilities that can't be obtained elsewhere. Many of the best programs on offer would be considered too small or insignificant to market commercially whilst others form the building blocks of full-scale applications. The variety of software is so vast that whatever your system configuration or the uses you have for your machine, there simply can't fail to be something here of interest.

DC FORMAT

Some of the most useful PD utilities are those which enhance the ST's disk maintenance and management functions. **DISK UTILITIES 3** is a typical example of the numerous collections of goodies to be found in the PAGE 6 library. One of the highlights of the varied contents of this disk is DC Format, the versatile and highly revered formatting utility from Double Click Software. Although this program's ability to format single or double sided disks with 9/10 sectors across 80/82 tracks has been outshone by several other formatters, it remains a winner through its professional design and the host of other options it provides. For example, it allows you to write various executable programs to a disk's bootsector - one such routine enables the ST to automatically boot into medium resolution without requiring a 'desktop.inf' file. This facility is obviously a boon to STE owners who suffer from the infamous 'medium-res' desktop bug. DC Format also incorporates an 'intelligent' copying function which determines the nature of the source disk and, if need be, formats the destination disk accordingly. An accessory version is supplied to run alongside your normal applications - but this doesn't offer the neat copying capabilities mentioned above.

If you often need to examine, copy or create abnormal or protected disks, you may find DiskMech the essential companion. Its powerful functions include a sector editor, a disk format editor, a disk analyser and a number of back-up routines for normal and extended disks. Elsewhere on DISK UTILITIES 3 there are programs for checking the performance of your system such as drive speed and memory, and several more besides. Not least there's Superboot, an excellent boot-up utility with options to change just about every parameter you can think of! The desired selections are made via a comprehensive configuration program - you can opt to have a welcome screen using any picture in '.TNY' format and choose the accessories to be loaded and the AUTO programs to be executed. There's an optional prompt to set the date and time and even the facility to load different desktop.inf files for alternative resolutions and colour schemes. Superboot works by changing certain filenames on boot-up to de-activate the desktop files and accessories. If you don't always require Superboot to be present, it's not a problem - you can configure it to execute only when the Alternate key is pressed, or only when it's not pressed. Once you have Superboot installed, you may wonder how you managed without it! For the very latest versions of DC Format and Superboot, check out CLASSIC UTILITIES.



DISKMECH - a powerful disk editor

THE QUICK UTILITIES

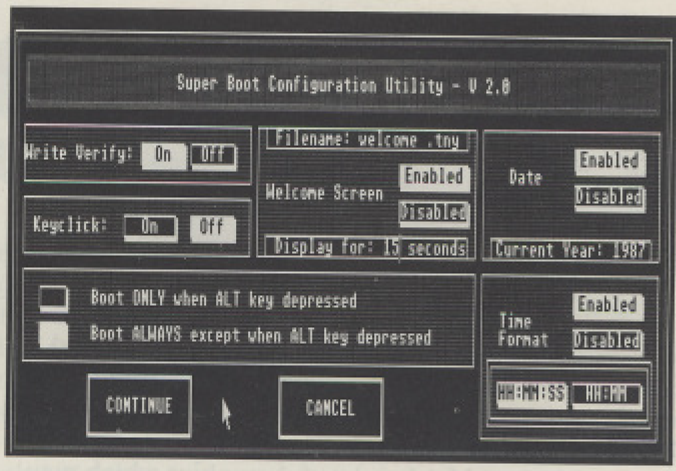
QUICK & MYSTIC is one of the best utility disks you will find anywhere in the Public Domain. It features several famous QUICK utilities, the wonderful Mystic Formatter and lots of other goodies. Quick Format can be used to re-format disks so that they run faster, and it will even handle disks containing data without losing any in the process. Quick Menu is a neat-looking GEM-based menu system for use with floppy or hard disk systems, containing lots of useful options. Of particular interest to hard disk owners is Quick Find, which searches a specified disk for filenames matching the pattern supplied by the user. The resulting output can be directed to the screen, a file or a printer. Quick Index helps you to analyse the efficiency of different ST systems by running a series of benchmarks to see how the statistics compare. Just how much of an improvement is that hardware blitter?

MYSTIC

The eponymous Mystic Formatter isn't just any old formatter - it may be less flexible than many of its competitors but the novelty is that it works entirely in the background, leaving you to get on with more stimulating tasks.

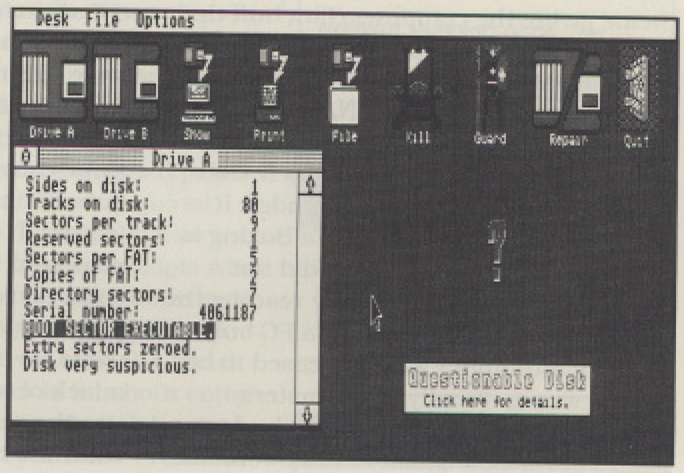
Don't go away, there's more! DCopy gives you dozens of useful disk maintenance functions and the accompanying DCopy Shell program adds a GEM menu to simplify their selection. As well as the usual disk copying and formatting facili-

ties DCopy performs many more esoteric tasks such as conversions between 8-bit and 16-bit text files, .arc file creation and extraction, hex dumps and file modifications. Expander will transform any single sided disk into a double sided one, without overwriting the data. This is particularly useful for those users who have recently upgraded their drive or who have a large collection of single-sided PD disks and want to make use of all the redundant disk space. Other programs on the disk include a demonstration of G+Plus - a powerful replacement for GDOS which looks to be very good indeed, a mouse accelerator that's controlled by simple key presses and a screen saver that will blank out your monitor after three minutes of mouse or key inactivity. The screen saver runs from the AUTO folder and seems to be compatible with a large number of commercial applications (it certainly works well with Protext 5 on the STE!)



Left - set your system up as you want it with SUPERBOOT

Below - VKILLER one of several utilities on THE VIRUS DISK



GET HACKING!

Wouldn't it be nice if instead of displaying a meaningless row of bombs when a program crashed, your ST could actually tell you what sort of problem had occurred? With Antibomb - one of the **HACKER'S UTILITIES** - it can! Antibomb is a small TSR (Terminate and Stay Resident program) which waits for a crash (or to use the correct 68000 terminology, an exception) to occur and dutifully replaces the bombs with an informative alert box describing the error in English. Depending on the nature of the problem, it may then give you an option to continue or abort the application - a simple, but considerable enhancement. Other HACKER'S UTILITIES include a sector editor with excellent documentation, a disk verify program and a programmer's version control system to help keep accurate and detailed program back-ups. Also, Ramplus is a combined RAM-disk and print spooler with several other features. The RAM-disk is immune to soft resets or resolution changes and can be preset to a range of different memory sizes and the desired drive identifier. The author claims it will even increase the storage capacity of floppy disks by fixing a bug in GEMDOS!

VIRUSES OUT!

However carefully you look after your disks you can never be sure that you won't pick up an uninvited guest - a computer virus. But what you can do is take some simple steps to prevent viruses causing havoc in your system and spreading to other disks. **THE VIRUS DISK** is a collection of the best virus detection programs available in the Public Domain and offers several other utilities to help defeat the menace of the virus programmer. Super Virus Killer from MUG UK is one of the best PD programs of its type - it can recognise 5 bootsector viruses, 7 anti-viruses and 133 other types of bootsector, such as those found in many commercial games and even some Public Domain demos. All of the options are accessed via friendly pull-down menus. As well as the standard 'kill' function there's a selection of anti-virus bootsectors which you can write to your disks for maximum safety.

THE KILLER

VKiller is a similar program that is completely mouse/icon driven and is equipped with options to save, print and view bootsectors, install a virus-guard routine and, of course, eliminate any nasties that are lurking on your disks. VKiller claims to deal with no fewer than 18 known viruses. Other highlights include a demonstration of some of the common ST viruses - this can help you recognise the symptoms and thus deal with any problems before major damage is done - and a unique compilation of virus prevention utilities. For example, Watcher is a small routine that sits patiently in memory and checks that the disk's bootsector isn't altered when it shouldn't be, whilst Bootcmp compares a disk's bootsector with a file known to contain the correct uninfected data. The disk contains full documentation on how to operate the various utilities, hints on the best ways to use them with your system and a great deal of other information. To quote a warning from Richard Karsmakers' Viruses article in PAGE 6 issue 35 - "EVERYBODY can become the victim of a computer virus" - but with THE VIRUS DISK at least you will be prepared.

One of the most effective ways to improve your ST's environment is to invest in a complete replacement desktop. The commercial application Neodesk has gained a high reputation in this field ("possibly the most worthwhile package any serious user will ever purchase" - issue 47) but it's by no means the only solution. Before you fork out forty pounds for Neodesk you'd be well advised to investigate the growing number of alternative desktops in the Public Domain. Sounds to me like it could be another PD World topic.

Keep watching this space!

HOW TO GET THEM

All of the disks featured in PD World are available from the PAGE 6 ST library. Each has a unique reference code which you should use when ordering or making enquiries. Please contact PAGE 6 if you don't have a copy of their Accessory Shop leaflets and check the system requirements for each disk. THE PAGE 6 CATALOG DISK containing a full list of disk names and contents is available from the library, priced at £1. The disks referred to in this article are:

ST76 - DISK UTILITIES 3
ST181 - CLASSIC UTILITIES
ST182 - QUICK & MYSTIC
ST376 - THE VIRUS DISK
ST378 - HACKER'S UTILITIES

Prices for standard disks are £2.95 each or £2.50 each for ten or more
Write to PAGE 6, P.O. Box 54, Stafford, ST16 1DR
Telephone 0785 213928 or FAX 0785 54355 with credit card orders

FOURSOMES

Three companies have recently released "Greatest Hits " compilations each with some sort of theme. Ocean's **HOLLYWOOD COLLECTION** stays with the hit movie theme giving the computer/film buff the following: Batman The Movie, Robocop, Indiana Jones and the Last Crusade and Ghostbusters II. Elite's **FINALE**, claiming to be the best of any released compilation offers Paperboy, Ghosts & Goblins, Space Harrier and Overlander. It also states that Frank Bruno's Boxing is in this set although my copy did not contain this and following my reading the instructions I felt that it was a PC only offering, although I will be pleased to be proved wrong. Finally CodeMasters **QUATTRO** offers four beloved budget games of variable quality Pro Powerboat, Nitro Boost, SAS Combat and Pub Trivia.

Overall each box offers four games (although Elite do claim 5) of different degrees of geriatricity, with Finale's Space Harrier including a 1985 copyright date within its credits. This is not to say old is not good but in the hi-tech world of STE and Mega technology it is more than likely that new owners will find that the game does not sing and dance as well as some more modern Psygnosis or Infogrames may.

Having allowed for the age of the programs I will try to guide the reader through the options in these collections. **QUATTRO** is a budget compilation of older and budget priced games. These have been reviewed in the past and in the majority the same criticisms hold true. Pro Powerboat is a bit of a misnomer for what in essence is a fast and difficult to control chase game that would have looked better as part of a James Bond arcade sequence. Nitro Boost is a reasonable version of a race game through towns and rivers with adequate controls and fairly colourful graphics which may entertain for a while and SAS combat is a fairly sound rendition of Commando in large Arcade style blocks and brash colours. For me the collection was saved by Pub trivia which presented a strong quiz game converted from one of the earlier quiz machines to hit the hostelries of Britain. It allows multi player involvement and seems to have a fairly broad collection of questions with some tactical play to go with it. All in all QUATTRO is a value for money collection for those with a lack of software or for those who really use the machine for "serious" things and want the occasional arcade flourish on the cheap.

FINALE is a collection of old hits that were very highly thought of in their day, and contains the most ambiguous packaging I have seen for some time. I eventually found by scanning the small print on the box that the elusive Frank Bruno was actually replaced by Overlander on non-IBM machines. So while the packaging shows five games only expect four in any particular format! This merely highlights one of my long term grumbles about some of the software houses and slightly suspect packaging. The games in the set are of good value. Ghost 'N' Goblins is the archetypal arcventure with friendly graphics and good colour use. A faithful translation from the original, even so it is a little dated and creaks around the edges. I still enjoy playing this game and it is a little piece of history. The same can be said of Paperboy and Space Harrier. Both use the technology of their inception very well and are a worthwhile experience at any time, their inclusion in a compilation is a reasonable thing insofar far as they are good games that no longer merit high individual pricing. Overlander was a game I found trying and annoying, a scrolling race game with little to really recommend it, still I suppose that compilations should be allowed one problem entry. As with the previous piece of software not bad value if you do not own any of these games already.

HOLLYWOOD COLLECTION offers four fairly modern games albeit that one of them now appears for free in the new power pack range. This is an attempt to place slightly more modern and more stimulating gameplay at an affordable price. The major disappointment in this is Robocop, if only because it does not show the ingenuity of software planning the other three offerings do. All the games have strong graphic and sonic elements and with the multitude of cheat modes being published none of them should take too long to complete. My personal favourite was Batman, with its small sprites and interesting mode of animation for rope climbing. Ocean maintain their policy of strong soundtracks and video scans of leading characters within the play frames to good effect. Ghostbusters II gives the feel of a film with it's sets and difficult but playable scenes.

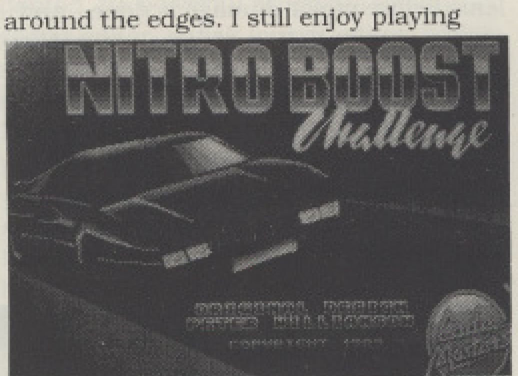
Of the three compilations Hollywood Collection is the one which offers the best value for money for any newcomers who have not bought the originals or even for those of us who felt the film licences were over-priced. There is still a little originality in these games and thus of the three this has to be my favourite compilation.

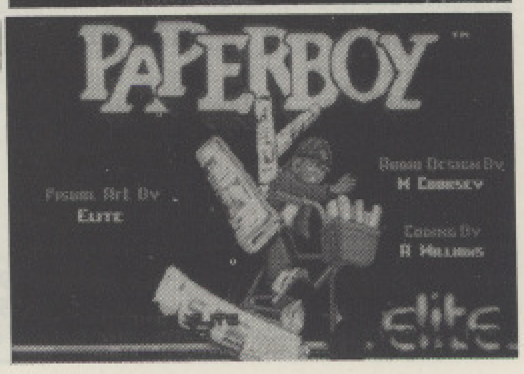
HOLLYWOOD COLLECTION
Batman The Movie, Robocop, Indiana Jones and the Last Crusade, Ghostbusters II
Ocean **£19.99**

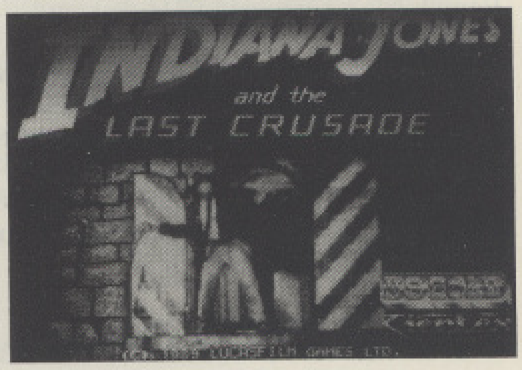
FINALE
Paperboy, Ghosts & Goblins, Space Harrier, Overlander
Elite **£24.99**

QUATTRO
Pro Powerboat, Nitro Boost, SAS Combat, Pub Trivia
CodeMasters **£12.99**

Reviewer Damon Howarth







- ***GAMEPLAY*** *- All are at least adequate, most are very playable if dated*
- ***SOUND & GRAPHICS*** *- Variable, Ocean seem to do best here since theirs are the youngest games*
- ***VERDICT*** *- Quattro and Hollywood are very good value and recommendable, Finale seems overpriced for older not quite classics*

WELLTRIS



Alexey Pajitnov is apparently a member of the Soviet Academy of Sciences, and is also a famous Soviet mathematician. He is now also the author of two excellent computer puzzles, his original title which many of you will have heard of - Tetris.

This new puzzle involves a three dimensional view, as though you were looking down a well. At the bottom of the well there is an eight by eight grid. The game's overall concept is very simple. Various different shapes will randomly appear at the top of the well and slowly fall to the bottom. Using the keyboard, you must control where the blocks will fall so that they fit into the available squares in the grid at the bottom. In order to achieve this you must move the shapes around the well's perimeter, thus placing the shape in the exact position you require. In addition to this you can rotate the pieces as they fall. The combination of these two control methods will enable you to place the pieces exactly on the grid where you want them (provided that they will fit). In order to score points you must position the pieces so they form lines which stretch fully across the well bottom, either vertically or horizontally. When a line is formed, your score is incremented and the completed line is removed from the well.

At times (actually most of the time when you are just beginning!) you will be unable to fit a piece into a gap in the grid at the bottom of the well. When this happens you have a choice of two options. By dropping a shape down a corner of the well, it will split into two separate parts. If this does not help you are forced to let the shape overlap onto one of the well's walls. When this happens the offending wall is removed from play for a number of moves, thus making your dilemma vastly worse!

Puzzle games of this type are very definitely an acquired taste, and because of this there will be many people who cannot get on with Welltris. I found it to be very addictive, and once you have the knack of the controls it is both enjoyable and very stimulating to the old grey matter! Presentation wise, the game is nothing stunning. The graphics are average as is the sound, but this does nothing to weaken its quality. It's brilliant!

FACTS

Title: **WELLTRIS**
Publisher: **Infogrames**
Price: **£24.99**
Reviewer: **John Davison jnr**

SIGHT & SOUND

Nothing stunning at all. The graphics are bold and bright and the sound is adequate

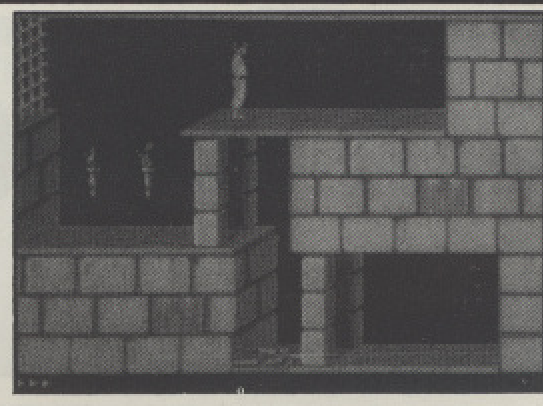
GAMEPLAY

If you enjoy spatial puzzles you will love this. If not it will drive you nuts. I loved it

VERDICT

My personal verdict is that Welltris is superb. However, arcade fans will find the pace a little slow

PRINCE OF PERSIA



FACTS

Title: **PRINCE OF PERSIA**
Publisher: **Domark**
Price: **£24.99**
Reviewer: **John Davison jnr**

SIGHT & SOUND

The animation is stunning and the sound effects are superb

GAMEPLAY

Great - apart from the fact that you go back to the beginning every time you die

VERDICT

Would be a superb game if it were not for the above

Hands up all those people who remember Karateka? Now that was a long time ago. Most of you won't have a clue what I'm talking about, but there must be some who remember one of the classic karate/arcade adventures of all time. Well, after all these years, we now have a sort of pseudo sequel written by the original author. This time you play the part of an heroic adventurer who must rescue the beautiful princess from the evil and apparently 'sexually deviant' (whatever that means) Grand Vizier. You have sixty minutes in which to rescue the pretty maiden from the evil Persian's grasp.

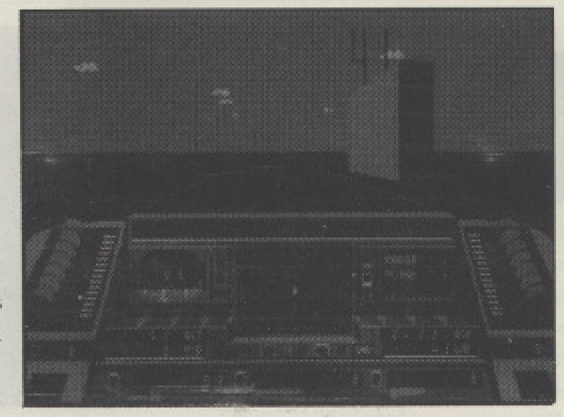
The game begins with a superb animated sequence as the princess refuses the Grand Vizier what he wants (dirty devil!), she then appears a trifle distressed as the sequence fades and your character comes into view, in a dungeon.

You must work your way up through the various levels of the dungeon to find your love. Along the way you will encounter unfriendly guards, strange potions, and artifacts which will be of use. You must engage in sword fights and avoid many of the cunning traps which have been set to prevent your escape.

Apparently, the author, Jordan Mechner has spent many hours watching movie clips to bring you some of the most realistic graphics ever seen in a computer game. He didn't do too badly I can tell you, as the animation is stunning! I have never seen anything quite like it. It is smooth and tremendously lifelike. The sound is also excellent, and as with pretty much every other recent release the spot effects and music use samples, and the quality is very high indeed. The sound of clashing steel is especially realistic.

As arcade adventures go, Prince of Persia is fairly typical in terms of playability, and you will either love it or hate it. Personally, I think it is brilliant, but I do have one quibble. When will software authors learn that players very soon become bored when they have to go back to the beginning every time they die? Why do they keep doing this to us? It's so annoying! This game would be amazing if it weren't for this silly feature.

SNOWSTRIKE



The year is 1999, and the President has declared war on the drug barons of South America. To do battle with the Colombian drug lords a special fighter has been developed to fly both land and sea based missions with the objective of destroying the drug plants and shipments. As you could well imagine these missions are very dangerous because of the immense resources which the drug barons have at their disposal. Only the best US pilots are capable of doing the job.

You are the pilot of an F14-LCB 'Cosmos', a brave and heroic pilot who must go into battle and carry out 'Operation Snowstrike'.

On first impression, 'Snowstrike' appears to be either one of two different styles of game. It could be described as a flight/combat simulator in the vein of F15 Strike Eagle. Alternatively it could be viewed as a simple shoot 'em up in the style of SkyFox/SkyFox II. I'm not sure which it is closest to; a ridiculously simple simulator or a tremendously difficult game!

You have various levels of difficulty and weather conditions to choose from, and also the choice between either a sea based 'shipment busting' mission or a land based mission to knock out the drug factories. Your final option is to choose your co-pilot from a list of men with varying personalities from complete rebel to outright nerd. This option is quite important as it governs the level and quality of assistance which your accomplice will give you.

The main game screen is very similar to a flight simulator, you have the appropriate instruments at the bottom of the screen and your view of the outside world at the top. Control is with a combination of mouse and keyboard to control the plane and its various weapons systems. Basically your mission is to carry out your instructions and knock out any enemy planes which may try to get in your way. Upon completing the mission you must return to base in order to receive further instructions and to refuel.

Presentation-wise, Snowstrike does not excel in any department. The graphics are fast, yet fairly simple and the sound effects and music are adequate yet nothing stunning. It's not bad though.

FACTS

Title: **SNOWSTRIKE**
Publisher: **Epyx**
Price: **£19.99**
Reviewer: **John Davison jnr**

SIGHT & SOUND

Adequate for the style of game, although not awe inspiring

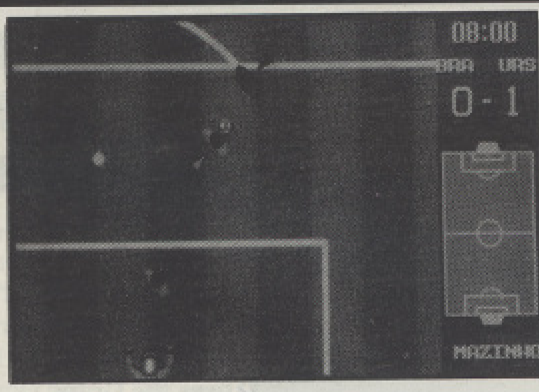
GAMEPLAY

Frustrating. It is basically a difficult to control shoot 'em up

VERDICT

A game which is not quite a simulator yet a bit more than a simple game. Not bad, but nothing special

WORLD CHAMPIONSHIP SOCCER



FACTS

Title: **WORLD CHAMPIONSHIP SOCCER**
Publisher: **Elite/Sega**
Price: **£19.99**
Reviewer: **Damon Howarth**

SIGHT & SOUND

Both of these present as adequate although the chunky sprites are easy to spot

GAMEPLAY

Fast furious and difficult, sometimes vague in controls

VERDICT

A good effort, worth buying if your soccer desires are strong

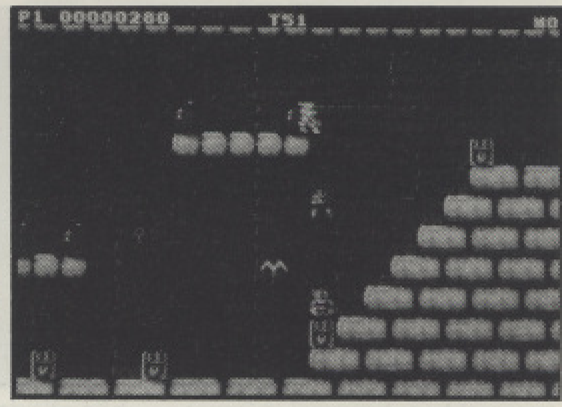
Ah! A soccer game that looks like Kick-Off which has been developed from the Sega games machine. Elite Systems have used their expertise in converting arcade games to produced a conversion that seems to work rather well.

The options in this one or two player soccer game include such things as choosing your own international side (based upon the last World Cup squads) and selecting a team by the relative strengths of players. To make life even more entertaining and thereby allowing a stronger simulation effect the various teams have a grading to show roughly how tough as opposition they should be. Scotland, the least beaten (although least successful), World Cup qualifiers in recent events, rate lower than Northern Ireland and the English. It is however a little distressing to see they have difficulty matching up to the Cameroon team in statistical power! Apart from that little gripe the control for the game is exemplary although a little slow. The graphics are nice and chunky and represent team colours well.

Unlike the current yardstick of Kick-Off I and II the game does not have fouls, red cards and the like and neither does it include weather factors. On the other hand it does have the statistical base earlier described. It is very pleasant to discover these ratings actually affect play. It is far easier to play with Brazil and Italy than it is to even score with the U.S.A. and Scotland. The computer seems to have psychic talents and is able to plant the striker in the right place while your goalkeeper develops tendencies to throw at said forward. Apart from that and the fact I never actually won or drew a game against the computer the game flows well and maintains interest. I felt that the computer was perhaps a little too strong in the early stages and that even with the weak teams the goalkeeping from the computer was too effective. I must admit that I never even managed a goal although Brazil but did hold the U. S. A. to a last minute winning goal defeat, far better than Italy's 9-0 defeat of the Scots!

I can quite happily recommend this to any soccer fan.

MIGHTY BOMBJACK



A long time ago and many public houses away there was an innovative platform arcade game called Bombjack, in which a little sprite like creature bounced around screenfuls of famous buildings, like the Sphinx, collecting apples and defusing bombs. This game had many sequels all with very similar themes and very similar moves. Needless to say it was successful in all incarnations. Even more needlessly I might add that the computer world also received many versions of this classic game. Mighty Bombjack is the latest in the line.

This particular variant is based on a fantasy adventure setting as the little bug goes to rescue a fair princess from the evil Beelzebut a foul demon. He goes because he is the youngest brother of the princess and all of his siblings have failed.

On looking at the packaging I was perturbed to see that all screenshots were accredited to the Amiga, normally a bad sign since it means that the ST screens are bland to say the least. This was certainly true of the original so I prepared myself for the disappointment. Happily this incarnation is better than the original and actually has a background and some interactive chests of powers and goodies. Once play begins and the joystick wielder realises just how to move the small figure about the screen there is quite a good platform based arcventure lurking behind this sequel.

The graphics, which are in such games all important, are decidedly more useful and better than I had expected. There is a strong use of colour and a reasonable sound accompaniment, although I did feel at times that the control of the hero could have been more positive.

In this version not only do you need to avoid the nasties as you collect discs you also need to open chests by bouncing on them and thereby obtaining various useful bonus abilities.

The game does not present the tactical challenge of such as Beyond The Ice Palace but presents a more problem oriented 'find the exit' type of game. I found it quite enjoyable and a good representative of its type, far better than the original.

FACTS

Title: **MIGHTY BOMBJACK**
Publisher: **Elite**
Price: **£19.99**
Reviewer: **Damon Howarth**

SIGHT & SOUND

Both are adequate for the game in hand, neither really create noticeable acclaim

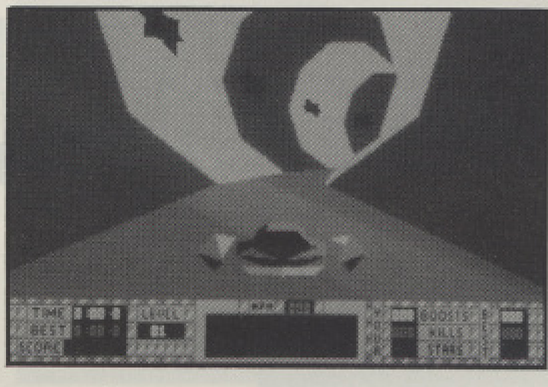
GAMEPLAY

Smooth scrolling with pleasant controls that become vague at times

VERDICT

Decidedly acceptable, but little in the way of novelty to recommend it

S.T.U.N. RUNNER



FACTS

Title: **S.T.U.N. RUNNER**
Publisher: **Domark**
Price: **£24.99**
Reviewer: **John Davison jnr**

SIGHT & SOUND

The graphics are slow and jerky and the sound is quite dreadful

GAMEPLAY

Could be superb, but it is unplayable due to the sluggish nature of the graphics

VERDICT

Not brilliant. An eight bit computer is more than capable of producing something better than this

In this arcade machine conversion the basic idea is a sort of futuristic bobsleigh run, where instead of a sleigh you pilot a 'S.T.U.N.' ship through the twisting underground passages of another world. Through these passages you will encounter a variety of obstacles ranging from difficult slopes and curves to enemy S.T.U.N. craft whose only wish is to hinder your progress.

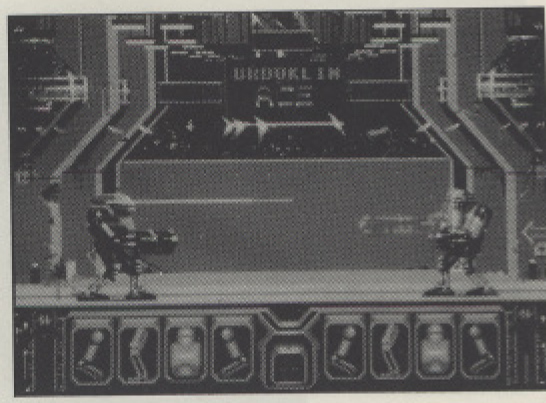
Along your high speed path you will find a number of green stars dotted along the floor of the tunnels. If enough of these are collected then you are given a weapon known as the 'Shockwave', which will obliterate everything in your path. The shockwave must not be depended upon for removing all nuisances, so your craft is also equipped with a laser for destroying anything which gets in your way! Supplementing this arsenal you also have the capability to force your craft up to tremendous speeds by moving over a 'Turbo Boost Pad' which will take your craft to nearly lightspeed and make it temporarily unstoppable by obstructions.

Your view is from just behind your craft, thus giving you a three dimensional view of the tunnel as it spirals towards you. You must simply negotiate the winding passages and try to reach the end. Just as with a bobsleigh, you should follow the outside line of the tunnel to maximise your speed.

The graphics in S.T.U.N. Runner are quite disappointing. A game of this type could be quite amazing especially if it was smooth and fast. This implementation is quite a let down, the graphics are just far too sluggish to make the game look 'right'. On top of this the sound effects are dreadful. An attempt has been made to have some digitized speech every now and then, but it is simply impossible to work out what is being said - it is merely a noise.

I have not seen the arcade original of S.T.U.N. Runner so I have no idea how close this version is. I can well imagine that the graphics are quite stunning and that it is much faster than this conversion. Speed is the main let down of the ST version, the movement is far too slow to make the game playable for long.

METAL MASTERS



Whenever I receive Infogrames software I always expect something a bit different and a bit special and rarely am I disappointed. Recollections of Japanese late night monster and giant robot shows slipped into my subconscious as I read the entertaining instruction book and eagerly watched as the first disk loaded to excellent music and effects.

The panning of a large robot with its small operator was a wonderful intro and set the scene. Finally the ST accessed the second disk of the set and the game could begin. I was in control of one of those monster robots so beloved of Comic books and Transformer fans everywhere. The match was ready to begin. From my limited initial budget I had to buy and equip a battlebot to represent me in the knockout. I bought it a laser arm and a metallic boxing glove fist. The legs were perforce unprotected owing to lack of funds, still we could win!

The screen changed, lifts whirred and the construction scene was completed when I saw my huge opponent. This would be tough! The fight was bitter and control was a similar experience to Barbarian style combat games. My robot was crushed. I lost but was eager to try again.

Eventually by winning a bout I had enough to upgrade to a meaner tougher machine but as in all such things the computer had a tougher one. Winning two in a row put me on a bonus screen which allowed me to beat up little humans and their puny tanks and helicopters in a battle simulation.

I did find the game had a built in secret for success when played in one player mode which allowed me to progress a long way into the game with little challenge. The game could become quite challenging in the two player mode and certainly offers a strong one player challenge if you don't figure out how to cheat.

Although this is really only a variant on the beat 'em up theme Metal Masters is presented in a novel and imagination grabbing style. It certainly rates as my favourite of the games I reviewed this time and I am happy to recommend it to any person wanting a change of pace in their combat gaming.

It certainly had me hooked from the word go.

FACTS

Title: **METAL MASTERS**
Publisher: **Infogrames**
Price: **£24.99**
Reviewer: **Damon Howarth**

SIGHT & SOUND

Both are atmospheric, correct and excellent

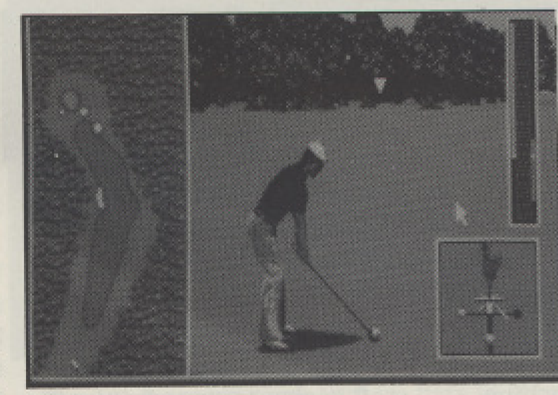
GAMEPLAY

Fast fun and addictive

VERDICT

A marvellous sci-fi slugfest. Buy one immediately!

TOURNAMENT GOLF



FACTS

Title: **TOURNAMENT GOLF**
Publisher: **Elite**
Price: **£19.99**
Reviewer: **John Davison jr**

SIGHT & SOUND

The graphics are slick and smooth and appear to be very realistic. The sampled sound F/X are excellent if a little abrupt

GAMEPLAY

Considering I'm not a golf fan I enjoyed it very much

VERDICT

I loved it. If you're a golf fan you would probably enjoy it even more

I've never been a big fan of golf. I don't like watching it on TV and I've never been able to get the hang of playing, either on the course or the driving range. Should I really be reviewing this game?

Tournament Golf from Elite is described as a 'golf simulator' which allows you to take part in a tournament across three world class courses against fifteen other professional players.

To aid you in your game, you have been teamed up with a caddy who will give you useful advice when you need it. Now, as I've already said I'm not a very experienced golfer, but I do know that I have never seen a pretty, tall, brunette golf caddy with long legs and a skirt that would serve well as a belt! Do golf clubs really allow this sort of thing? Am I missing something?

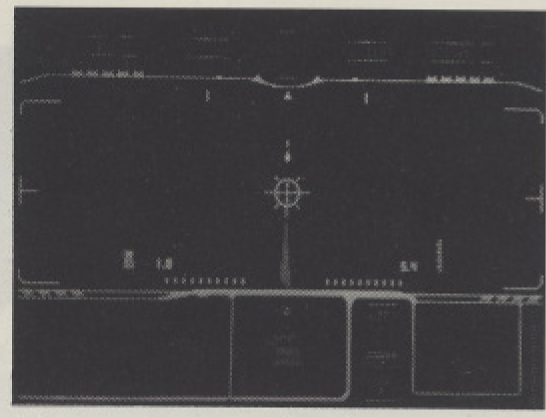
On loading the game you are greeted with an awkward password protection system which has you thumbing through the manual searching for a single word. Once you are 'in' the game you have a multitude of options before starting. You can select your level of play and also whether you are practising or entering the tournament. Once the game has started your view of the proceedings for the larger part of the game is from directly behind your character with the fairway stretching out in front of you. On the left hand side is a plan view of the 'hole' which you are currently playing. When (if?) you reach the green, the view changes to a bird's eye view of your character as he tries to sink the ball.

Graphically the game is very good indeed. The animation of your large and detailed 'golfer' character is smooth and realistic. The sound is also of a very high quality, comprising mainly of sample spot effects. The crowd cheer when you hit a great shot, and gasp in a suitably sympathetic manner when you miss a put.

To play I found the game surprisingly fun! The control method using the mouse and a series of icons is easy to get used to and overall I found it a pleasure to play.

Golf may not be that bad after all! Maybe I'll take it up!

MATRIX MARAUDERS



This game bears all the hallmarks of a Psygnosis game, well packaged with a colourful box and fairly detailed instructions together with strong screenshots on the box. The promise of good things inside is borne out fairly well, the loading strains are good and keep the attention during loading. The game gives forth the now expected superlative screen animations and scenario set up. The question is though what sort of game is this?

Basically what we have is a space jockey race game, using a 3D course reminiscent of the Freescape series of games. The control system is different from the norm allowing a player to control the head of the pilot and the ship independently. Oh yes, the player takes the part of a somewhat suicidal space racer in a futuristic sport that guarantees not only one winner but only the one survivor.

The standards of scrolling and presentation only reach the adequate and are an anti-climax to all the good pre race work to be described later.

Some of Psygnosis latest offerings are starting to show signs that the design team are looking to the old ideas and trying to breath new life into them. The last few games have just about worked and again this manages the same curate's egg type of performance.

The opening screens, wherein the player prepares for take off and sets up his ship with some of the expansive and expensive arsenal of devastation, are very well conceived, reminiscent of many early TV sci-fi series. So too the controls which utilise Joystick, mouse and keyboard giving a complex learning scenario for the beginner. Your in flight objectives appear to be threefold, to win, to destroy or disable the opposition in order to achieve part 1 and finally to pick up as much bonus cash as possible while circumnavigating the very twisty and difficult course. On the bright side it is possible to play against a human opponent if a cable is set up allowing two players with their own machines to join in life and death combat.

I felt that this game had a great deal of top show but very little nitty gritty once the twists are unravelled. A game of interest however to those who enjoy a good competitive shoot 'em race.

FACTS

Title: **MATRIX MARAUDERS**
Publisher: **Psygnosis**
Price: **£19.99p**
Reviewer: **Damon Howarth**

SIGHT & SOUND

Pictorially excellent, smooth scrolling and vivid. Sonically weak but just acceptable

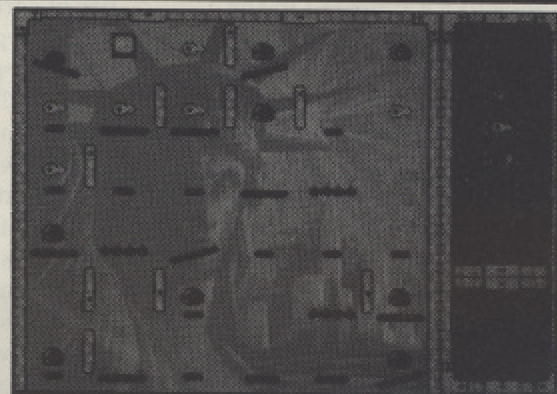
GAMEPLAY

Very solid with some good extras, it didn't "hook" me though

VERDICT

Not the best overall space race version but nonetheless a creditable effort worthy of some notice

POP UP



BOIIIING! BOIIIING! Another crazy game from those mad French guys at Infogrames - this time you get to be a bouncing ball trapped in dozens of fiendish mazes. Each maze is just one screen full of platforms and objects; some objects are deadly, some are tools, some must be collected before the exit will appear.

Pop Up is completely joystick driven; the button gets you bouncing, left and right allow you to turn in the air, down stops you dead. If you land on a spiked platform, touch one of the little baddies that float backwards and forwards, get stuck bouncing between two inclined platforms, or fall off the bottom of the screen, then you lose a life. Falling off the bottom, or into nasty places, is difficult to avoid as many of the platforms disappear after 1,2 or 3 bounces!

You need to collect extra lives and tools along the way - hammers, keys and water drops get rid of vertical poles, walls and fires - though many of the poles need more than one blow to destroy them - not easy when you are bouncing on disappearing platforms!

It starts off easy, but soon gets VERY hard - some of the later screens can only be solved by getting every single bounce and turn EXACTLY right! This is made slightly frustrating by the fact that the ball doesn't always seem to react immediately to commands to turn or stop (usually causing you to lose a life!). Maybe it is me, or my joystick, but the game seems very unforgiving!

Fortunately, if you are frustrated with starting at level one and dying on level thirteen every time, you can just press D to switch to the random version - you never know which level you will get next. There are some really nasty levels up there - I have seen some of the ones in the eighties - and at least one looks impossible!

Pop Up is a very simple idea which has been well implemented - it is easy to get into, and keeps you coming back for one more try to see if you can reach the next level in the best tradition of arcade games.

As a bonus there is also an editor which allows you to create your own levels which keeps the interest going.

FACTS

Title: **POP UP**
Publisher: **Infogrames**
Price: **£24.99**
Reviewer: **John Sweeney**

SIGHT & SOUND

Good clear graphics, nice sound effects

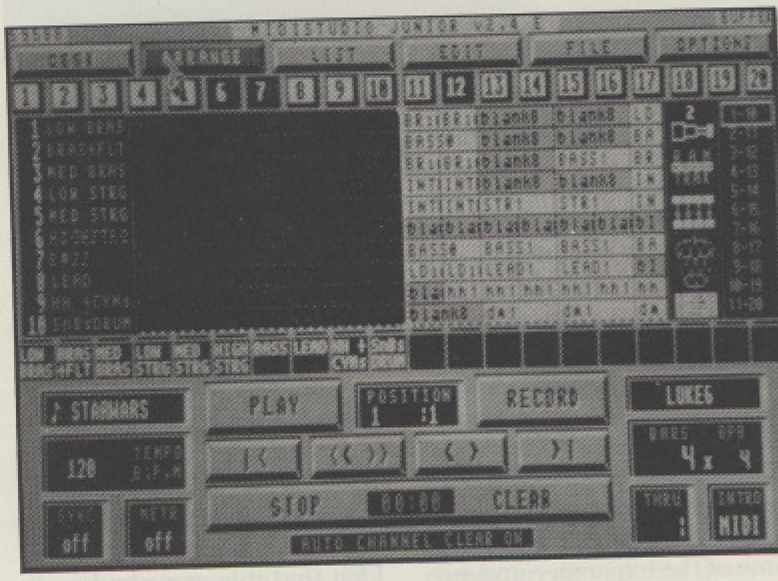
GAMEPLAY

Highly addictive joystick-driven arcade game

VERDICT

Great fun

MIDISTUDIO



This MIDI sequencing program has been around for some time, but has recently been slashed in price from £79.95 to £49.95, bringing it firmly into the "budget class" for such programs. The package includes a single sided program disk and a rather brief 32 page instruction manual, which unfortunately isn't exactly a model of clarity. MIDIStudio runs on a 512K ST/STE in medium or high resolution, and also requires a suitable MIDI equipped synthesiser, of course.

TWENTY TRACK

It's a 20 track, phrase based sequencer, which means you use it to build up a complete piece of music from smaller musical elements (phrases) of any convenient size - typically a few bars. You record each phrase separately, either in real-time at any convenient tempo, or in step-time, and then arrange them in any order on any tracks you choose to form the complete musical piece. There are no record or playback looping facilities (except in phrase edit mode), so all recording is done on a "one-shot" basis, and phrases requiring repetitive playback have to be "arranged" manually first.

Arranging the phrases is simplicity itself. Using the mouse, you just drag the required phrase from the list of phrases already recorded and drop it on the required track in the appropriate position. Phrases may be added, deleted, inserted, or copied easily too. This function has a friendly visual interface, so you can actually see the phrases you're manipulating on the tracks. The display may be scrolled and zoomed to the appropriate position and level of detail you require. This whole process is one of the slickest parts of the program, and is a delight to use.

Title:	**MIDIStudio**
Publisher:	**Ladbroke Computing**
Price:	**£49.95**
Reviewer:	**John S Davison**

Each track may be set to play back on any MIDI channel using any MIDI program number (and therefore any sound on your synth). This can be subsequently overridden to select different sounds "in-flight" by program change commands embedded within phrases.

Each phrase in the piece need only be recorded once. If it's repeated in the music you just reuse it by dragging it from the phrase list again and dropping it on the track where needed - a great timesaver! The program holds up to 100 unique phrases, providing enough scope for most popular music requirements. Like complete musical pieces, phrases may be saved to disk and reloaded as required, so it's possible to build up a phrase library - particularly useful for drum rhythms.

EVENT EDITING

Once recorded, a phrase may be altered using MIDIStudio's editing facilities. Some people might think these a little primitive, as they work directly on the MIDI event list, without the benefit of grid or score edit options sometimes found in other sequencers. You can change the note pitch, velocity, and start and stop timing data (in bar/beat/click form). You can also delete or add events, including note, program change, and certain controllers (excluding continuous controllers such as pitch bend and aftertouch). Editing is performed using the mouse, or in some cases input may be read straight from the MIDI keyboard.

The editor also allows you to work at the phrase level, so you can copy, split, merge, append, transpose, quantise, and filter out unwanted types of MIDI data from phrases. Note velocity can be manipulated too, with levelling, randomising, change by fixed amount, and fade in/out provided. I found quantise to be MIDIStudio's weakest function as it didn't always seem to work as expected. I suspect this may be connected with the program's rather miserly resolution of only 24 clicks per beat.

It's worth noting that any "destructive" editing operation performed on a phrase can be reversed if required by retrieving the original version of the affected phrase from a special buffer. This can be quite a lifesaver when needed!

MIXING DESK

In use the program operates via a number of screen windows, the contents of which depend on the functions selected. Virtually all operations are mouse controlled, although there are keyboard equivalents if you prefer them. Its most impressive display is probably the "desk screen", designed to mimic a recording studio mixing desk. Major sequencer functions operate via "tape recorder" controls, a mouse click on the appropriate button controlling play, record, fast forward/rewind, etc. Each track also has a mouse operated volume slider, allowing you to control the volume of each independently. These only work with synths which recognise MIDI Controller 7 commands though. My Yamaha PSS-680 and YS-200 don't, so I couldn't try out the sliders. Each track also has an associated activity light, which flashes to indicate MIDI playback activity on that track.

In summary, I enjoyed using MIDIStudio. I particularly liked its phrase based approach and the ease with which you can build a complete musical piece using its facilities. My only real criticisms concern its slightly dodgy quantise feature; the lack of visual editing aids - particularly a drum editing grid; and its lack of looping facilities, but none are real showstoppers.

At its new price MIDIStudio offers excellent value for money, so if you're looking for a sequencer make sure you check it out. You could save some money.

Peter Hickman's

STOS COLUMN

The company that won't release games if they have been written in STOS ...

The company that releases their own STOS written programs ...

512 colour routines for you to use ...

plus a bit of news

SCANDAL!!

What an initial theme for this issues STOS COLUMN! It all started up there in Macclesfield at Mandarin HQ .....

Once upon a time Nick Harper (Development Assistant and budding games tycoon), wrote a game - using STOS - called OZONE, and without mincing words it is pretty spectacular and by far the best STOS game ever written. Now young Nick had a little trouble getting this game published. Admittedly the puzzle/arcade elements of the game were not suited to some companies current labels, but eventually he managed to get ZEPPELIN GAMES (the brilliant company responsible for many of the 8-bit ATARI's best games) interested. That was until they found out it was written in STOS. Strange huh? Anyway to cut a really long story short here is an extract from the rejection letter Nick received:

"Thank you for thinking of us in sending out this demonstration of your work, we are always interested in new talent.

I'm afraid that we cannot use your program "Ozone" because of its being written in STOS instead of assembler. We did like the game idea and the graphics very much as I told you on the telephone but it is our policy not to use game generators to produce games."

ARRRRGGGGHHHH!!!! GAME GENERATOR!!!!! Have I just travelled back in a time warp 5 years? How can a PROGRAMMING LANGUAGE be classed as a game generator? If programmers keep libraries of routines and utilities such as sprite editors to produce products does this mean that packages such as LATTICE 'C', DEVPAC 2, TURBO PASCAL or AMOS are just glorified "GAME CREATORS"?

Will we ever see the end to SOFTWARE RACISM (or should that be PROGRAMMERISM)? I don't know, but at the time of writing (according to the trade mag CTW) ATLANTIS SOFTWARE's best selling budget title is SKYSTRIKE PLUS, a game familiar to readers of this column as being one of the most addictive and playable pieces of software around. Next month tune in for the second exciting episode of our saga: OZONE, WILL IT EVER BE PUBLISHED?....

CHEAT ... CHEAT

Anyway, the above mention of ATLANTIS brings me on to cheat modes for the fabo game SKYSTRIKE PLUS. Type this exactly

"DON'T P ANIC"

When I say exactly I mean it!!! (The space in between the P and A of PANIC is supposed to be there). After doing that try pressing G on the keyboard to get loads of weapons and repair bonuses.

ALL THOSE COLOURS

Okay now for the programs. First up this time is another program from the great Terry Mancey, this is a supplement to the 512 colour routine published in the last issue, which you need to run this program. If you don't have it phone Page 6 Publishing and order a back issue now (you won't want to miss this one!).

Last time I took you through how to create a multicoloured screen using STOS 512, this time Terry has given us a program which displays all 512 colours on screen just like on Degas Elite. There is a slight problem in that the colours of the mouse clash with those produced by the program making the cursor look a bit like the camouflaged alien from the film PREDATOR. But this is easily solved by designing you own mouse pointer using the STOS sprite editor. Type in PROGRAM 1, this is what is does:

LINEs 10-40 Terry's credits!
LINE 60 Loads the STOS 512 routine from the last issue
LINEs 90-100 Set up the screen
LINEs 130-190 Set up the colour bank using the method we looked at in the last issue
LINEs 220-250 Draw a box so we can see which colour we have selected

LINE 280 Starts up the 512 routine, see the last issue for full details
LINEs 310-360 Contain the main loop, **Line 330** is the one which calculates the colour which is underneath the mouse pointer
LINE 400 Stops the 512 routine
LINE 430 Ends the program!!

Not too hard to produce an impressive display is it? Next time I hope to have yet another 512 colour utility so if you haven't got it yet make sure you find a copy of the last issue by then!!

```
10 rem ***********************************************************************
20 rem ***                    STOS 512 PALETTE DISPLAY v1.0                 ***
30 rem ***  PROGRAMMED FOR NEW ATARI USERs STOS COLUMN BY TERRY MANCEY   ***
40 rem ***********************************************************************
50  :
60 load "STOS_512.MBK",15
70 rem this routine was supplied in NEW ATARI USER ISSUE 48 (FEB/MAR)
80  :
90 fade 1 : rem * Lights out!
100 key off: flash off: curs off : click off : hide on : mode 0 : scroll off
110  :
120 rem *"> Setup STOS 512 palette bank
130 erase 14 : reserve as work 14,2066 : R=0 : G=0 : B=0
140 for P=0 to 63 : doke start(14)+((P*16)*2),$0
150 for C=9 to 15 : doke start(14)+(((P*16)+C)*2),$777 : next C
160 doke start(14)+(((P*16)+14)*2),$0
170 for C=1 to 8 : doke start(14)+(((P*16)+C)*2),(R*$100)+(G*$10)+B
180 inc B : if B>7 then B=0 : inc G : if G>7 then G=0 : inc R
190 next C : next P : doke start(14)+((64*16)*2),$0 : for C=1 to 15 : doke
start(14)+(((64*16)+C)*2),$777 : next C : doke start(14)+2064,-1
200  :
210 rem *"> Setup screen
220 for X=0 to 7 : ink X+1 : bar X*40,9 to (X*40)+38,199 : next X
230 for Y=0 to 62 : ink 0 : draw 0,(Y*3)+11 to 319,(Y*3)+11 : next Y
240 pen 15 : locate 20,0 : print "PALETTE DISPLAY v1.0"
250 paper 1 : locate 8,0 : print space$(11) : paper 0 : ink 15 : box 64,0 to
152,7
260  :
270 rem *"> Switch on STOS 512
280 areg(0)=start(14) : dreg(7)=2 : dreg(0)=2 : dreg(1)=8 : call 15
290  :
300 rem *"""""""""""""""""""""""""""" Main program """"""""""""""""""""""""""""""""*
310 limit mouse 0,9 to 319,199 : show on
320 repeat : XM=x mouse/40 : YM=(y mouse-9)/3
330 RGB=deek(start(14)+(((YM*16)+XM+1)*2))
340 doke start(14)+(((64*16)+1)*2),RGB
350 wait vbl : locate 0,0 : print "RGB:";hex$(RGB,3)-"$"
360 K$=inkey$ : K=scancode : until mouse key or K=1
370 rem *"""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""""*
380  :
390 rem *"> Switch off STOS 512
400 clw : dreg(7)=3 : call 15
410  :
420 rem *"> Return to STOS Basic!
430 default : end
```

Program 1 - displaying the 512 colour pallette

ANIMATION

Any old Atari 8-bitters out there? Remember how we used to produce animation using PAGE FLIPPING? Well if you are new to the term PAGE FLIPPING let me give you a brief description of what it does. Do you remember (when you were young and computers with the power of a ZX81 still filled office blocks) creating little moving matchstick men in the corner of a school book by drawing him in one position, turning the page, draw him in a slightly different position and so on for about 10 pages? This is the basis behind PAGE FLIPPING on a computer, you set up a number of screens, draw some things moving around on them and then display each one in turn.

Francois Lionet actually wrote some very good PAGE FLIPPING demos in AMOS on the Amiga, and the programs in this issue are actually derivatives of those written by Nick Harper (gets around, doesn't he!). Type in programs 2 and 3, they are both very similar and use SPRITES from the STOS accessories disk in a file called ANIMALS1.MBK. The breakdown is for PROGRAM 2 which contains a few variables to allow owners with 1 meg or more to specify the number of screens they wish to flip.

LINE 10 Gives credit where it is due. "Frankie" is an endearing term for Francois Lionet
LINE 20 Sets up the screen
LINE 30 Loads the Sprite file
LINE 40 Gets the Sprite palette
LINE 41 Sets up some initial variables, NUM is the number of screens to flip, the more screens you have the smoother the effect is. STSP is the number of the starting Sprite that we wish to put on the screen. FINSP is the number of the finishing Sprite. The program will cycle through STSP-FINSP thus creating animation with for different sprites
LINE 50 Opens up all of the screens. The more memory you have the more screens you can have open (up to a max. of 14)
LINE 60 Clears the physical and logical screens
LINES 70-90 Set up a few more variables
LINE 100 Switches off the slow autoback system and the automatic Sprite updater
LINE 110 Is the start of the loop
LINEs 120-130 Do a bit of maths to work out where to put the next Sprite
LINEs 140-180 Stick a Sprite on a screen, copy it into the background and then flip it to the front
LINEs 190-201 Change the screen and Sprite numbers and then check to see if they are in the correct range
LINEs 210-220 Some more maths/range checking for the next Sprite

What do you think? Not bad huh? This method is how many demos and games have been written in the past, so if somebody says to you they have written a demo with 6000 Sprites on the screen, tell them you can do that - with STOS!

NEW PRODUCTS

Okay it's time to catch up with all of the STOS related news and product launches. There are now TWO different STOS newsletters, one done by Aaron Fothergill who is offering a disk which contains some new (unpublished) STOS extensions to all new subscribers, and the other is a new mag (called STOS Magazine) which is put together by Dion, Philip and Brenda Guy and is pretty nifty. If you are interested in finding out more about these two take a quick look to the end of this column for an address!

If you think that paper is a dead form of communication and prefer to get your help, news, hints & tips on assembly language and STOS from a disk based

magazine then why are you reading this? Seriously though, my mates Terry Mancey and Richard Gale have got together with that smelly guy Alastair Craig (the Skunk) to produce ST PROGRAMMER. This bi-monthly disk packed full of fun, reviews and STOS related programming stuff is rather nifty. Unfortunately its not available from the newsagents, only directly from Riverdene PDL. Once again the address is at the end of this article.

If you are a fan of the Top Selling Fun School series the latest word on the grapevine is that there is a more than remote possibility of Fun School 4 hitting the shops before Christmas, more news of that later in the year. In fact most of the educational software companies (D.E.S., HAT, SCETLANDER, SOFT-STUFF) seem to be taking the plunge and are using STOS and AMOS to produce excellent quality learning tools, so at least somebody likes these "GAME GENERATORS" (sorry, I promise I won't mention that again).

Last on the news front (but definitely not least) is the release of two new games from Digital Dimension. Jiggers is a really frustrating puzzle game, which I must confess I cannot play very well. That's not a reflection on the game you understand (it is of a very high quality with excellent use of sound samples and graphics) but on my ability to play it. I am afraid I cannot stand puzzle games, I shot my Rubic's Cube, melted Tetris (nice music though!) and every time I got one of those slidy square things or Chinese puzzle in a Christmas Cracker they would immediately find a home in the Blender (not recommended for younger readers). The second game - Fruit Pursuit - is a mind blowing experience of gargantuan proportion, actually it's a Fruit Machine simulator but I try to give one quotable phrase for every issue. What can I say except that I hate Fruit Machines as well as Puzzles! My Dad on the other hand is a real addict when it comes to gambling, horses, Snooker, Football, Fruit Machines (he doesn't like Arcade Games 'cos you never get any money back!) so over to you Dad for your opinion of this game:

"I like it. It's the best Fruit Machine I've seen on a computer, where do I collect my winnings?"

```
10 rem Nick's STOS version of Frankie's whirly bob routine.
20 curs off : flash off : key off : hide on
30 mode 0 : load "ANIMALS1.MBK"
40 A=hunt(start(1) to start(1)+length(1),"PALT")+4 : for B=0 to 15 : colour
B,deek(A+B*2) : next B : LVL=1
50 for Z=5 to 10 : reserve as screen Z : cls Z : next Z
60 cls back : cls physic
70 DG=0
80 SCR=5
90 DGG=2 : CDG=0
100 auto back off : update off
110 rem loop
120 X=152+(150*cos(rad(DG*1.5)))
130 Y=92+(80*sin(rad(DG)))
140 logic=SCR
150 screen copy SCR to back
160 sprite 1,X,Y,1 : update
170 screen swap
180 sprite off
190 inc SCR
200 if SCR=11 then SCR=5
210 DG=DG+DGG : if DG>720 then DG=DG mod 720 : CDG=CDG+20
220 CDG=CDG mod 360
230 goto 110
```

```
10 rem Nick's STOS version of Frankie's whirly bob routine.
20 curs off : flash off : key off : hide on
30 mode 0 : load "ANIMALS1.MBK"
40 A=hunt(start(1) to start(1)+length(1),"PALT")+4 : for B=0 to 15 : colour
B,deek(A+B*2) : next B : LVL=1
41 NUM=7 : STSP=1 : FINSP=4
50 for Z=2 to NUM+2 : reserve as screen Z : cls Z : next Z
60 cls back : cls physic
70 DG=0
80 SCR=2 : SPNUM=STSP
90 DGG=3 : CDG=0
100 auto back off : update off
110 rem loop
120 X=152+(40*cos(rad(CDG)))+(100*cos(rad(DG)))
130 Y=92+(30*sin(rad(CDG)))+(60*sin(rad(DG)))
140 logic=SCR
150 screen copy SCR to back
160 sprite 1,X,Y,SPNUM : update
170 screen swap
180 sprite off
190 inc SCR : inc SPNUM
200 if SCR=NUM+2 then SCR=2
201 if SPNUM=FINSP+1 then SPNUM=STSP
210 DG=DG+DGG : if DG>360 then DG=DG-360 : CDG=CDG+20
220 CDG=CDG mod 360
230 goto 110
```

Above - page flipping routines

Thanks Dad. Okay, both games cost £5.99 and are available (via mail order only) now!! So check them out.

SIGNING OFF

Oh well, that's about it for this time. Did you like that photo of Chris Payne and Francois Lionet in the last issue? If I get time I'll try and dig out some more pictures of people in the STOS world and you can see why New Atari User doesn't use that many photo's!!!!

You can write to Peter Hickman as follows:

PETER HICKMAN
36 CLEVERLEY ESTATE
WORMHOLT ROAD
LONDON
W12 0LX

The STOS Club can be contacted at

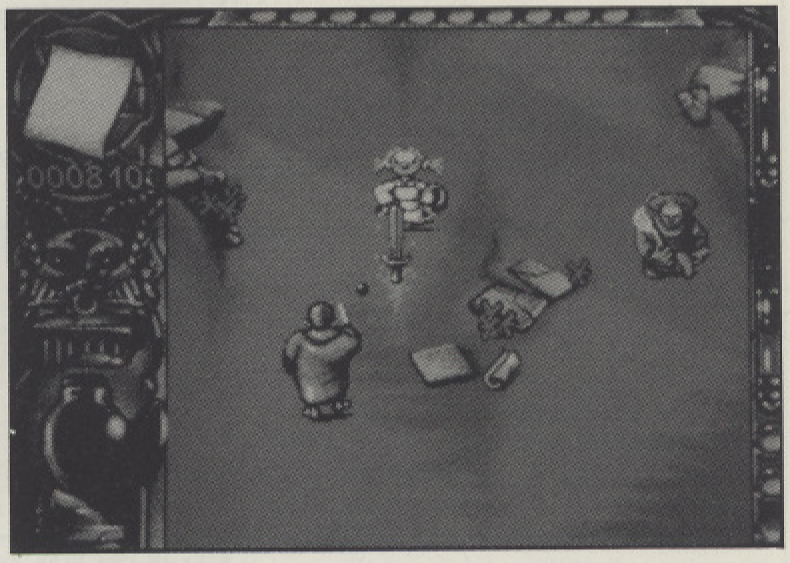
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WHIDDEN VALLEY
BARNSTAPLE
N. DEVON
EX32 8NW

RIVERDENE can be got at by phoning 0734 452416

And finally DIGITAL DIMENSION can be found typing away at

85 WATLEYS END ROAD
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BRISTOL
BS17 1PW

MYSTICAL

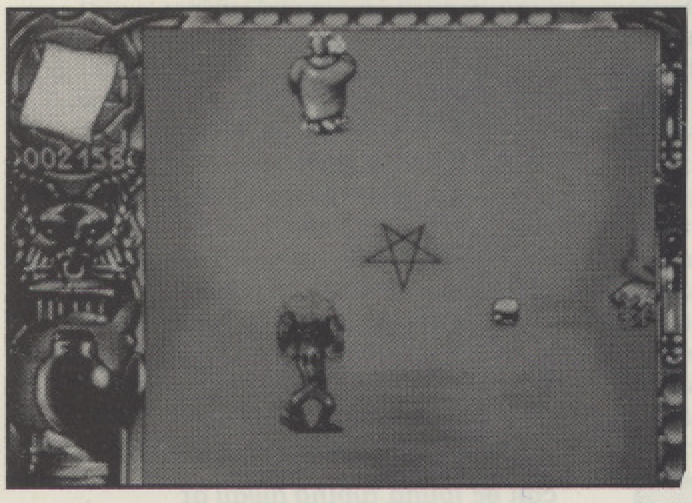


You are a novice magician nearing the end of his education. During the course of your studies at the temple of the Great Wizard, you clumsily cause the disappearance of all the phials and scrolls that have been carefully catalogued over the years. As you can well imagine this does not make you the most popular novice magician that ever lived! If you want to obtain your magician's diploma and return to the Lord High Grand Very Great Wizard's favour, you must go out into the big wide parallel worlds and recover as much of what was lost as possible.

As you can imagine though, there is a teensy weensie little problem with this. The parallel worlds are inhabited, and indeed dominated, by unscrupulous gods who are jealous of any power which is not their own. So as you can imagine, your quest is not to be a simple one! Help is at hand however. The Great Wizard, despite being miffed with you, agrees to let you use the spells and the potions (when you have found them) for your own self defence. As well as this he will follow you on your travels in his giant floating crystal ball.

Your magician character must advance through the dimensions in a setting which scrolls vertically from top to bottom. Along your travels your will meet many hostile characters who have been sent from the gods to destroy you. You must either avoid these characters, or dispose of them by casting one of the many spells at your disposal. These spells vary from the simplest petrification spell to causing earthquakes which swallow up your attackers. All of the spells cause amusing consequences and in some cases must be seen to be believed! Once you have managed to travel through the dimension successfully you must place yourself at the centre of the magical pentacle and wait to be transported on to another setting. In all there are four different worlds (or dimensions) which must be explored, and each of these worlds has three different settings.

Throughout the different worlds, not all of the spells and potions collected must be used, as some can be stockpiled for later use. This is especially useful for your encounters with the gods who appear at the end of each 'world'. The principle is no different from many other games containing 'end of level guardians'. You must simply avoid everything the god can throw at you whilst trying to cast spells on both him and his minions. If you are successful the Great Wizard will appear in his crystal ball and take you on to the next world.



The graphics in 'Mystical' are possibly its most impressive feature, as they are quite superb. Each character is wonderfully drawn in an amusing cartoonlike manner, and everything is animated extremely smoothly. Humour is a major aspect of this game and the graphics manage to capture a humorous 'feel' for the whole game. All of the hostile creatures are tremendous. There are walking trees and bible throwing monks, along with 'Little Red Riding Hoods' and ugly swamp things! The sound is also amusingly implemented, from the guzzling sounds as your magician takes a swig from a bottle of potion, to the babbling as he reads a spell. All of the sounds are sampled, from the simplest footstep to the various belches and gruntings of the creatures. The music also uses sampled sound and captures the atmosphere of the game superbly.

" The graphics are .. most impressive ... quite superb "

Basically, Mystical is nothing more than a vertically scrolling shoot 'em up, it merely differs in its setting. Like so many other games you must move along collecting your weapons, and at the end of the level you must defeat the 'guardian' (in this case the god). What makes this stand out a little from the others is the fact that it is not set on some far away planet battling the evil aliens, instead we are treated to a fantasy situation which is considerably more fun than your average game.

Overall, I was very impressed with the quality of 'Mystical'. It is presented in a very professional way. The graphics are of a superior quality and the sound is superb. In terms of gameplay, I found it to be immensely playable and highly enjoyable. My only quibble with the whole thing is that it takes a very long time to load.

- ***SIGHT & SOUND*** *- The graphics and sound are some of the best I have seen. They are humorous and add greatly to the game*
- ***GAMEPLAY*** *- A typical shoot 'em up in a different environment. Very playable indeed*
- ***VERDICT*** *- A superb game of superior quality*

Title:	**MYSTICAL**
Publisher:	**Infogrames**
Price:	**£24.99**
Reviewer:	**John Davison jnr**



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